A randomised study comparing a low dose of mifepristone and the Yuzpe regimen for emergency contraception. Ashok PW, et al. *Br J Obstet Gynaecol* 2002; **109**: 553–560

In this study from Aberdeen, UK, 500 women were randomly assigned to mifepristone 100 mg and 500 to the Yuzpe regimen for emergency contraception within 72 hours of unprotected intercourse. All patients were given a questionnaire and a follow-up appointment. A comparison was made of efficacy, side effects and patient acceptability, and possible confounding factors were taken into account.

Crude pregnancy rates as well as expected and prevented pregnancy rates were compared to assess efficacy. Seventeen pregnancies occurred in the Yuzpe group (all of which were considered to be method failures) giving a pregnancy rate of 3.6%. Only three pregnancies occurred in the mifepristone group giving a pregnancy rate of 0.6%. The difference in the rates was highly significant. Two of the three mifepristone pregnancies were considered to be user failures because conception must have occurred after the emergency contraception. If they are excluded mifepristone is seen to be even more significantly effective. Comparison of expected and actual pregnancy rates showed that mifepristone prevented 92% of pregnancies while Yuzpe prevented 56%. If the two user failures are excluded the mifepristone group prevented 97%. Side effects were less with mifepristone except that delay of the next menstruation was more common in the mifepristone group. Satisfaction was significantly better with the mifepristone group.

Now that progestogen-only emergency contraception has taken over from the Yuzpe regime the most useful comparison would be between mifepristone and progestogen-only pills. The Yuzpe pregnancy rates in this study are similar to those reported for levonorgestrel in the World Health Organization (WHO) study of 1998. Another of the authors' own studies has shown that mifepristone 200 mg is effective up to 120 hours after unprotected intercourse. Previous published comparisons of mifepristone and Yuzpe used mifepristone at a dose of 600 mg. However, as a result of its own trial the WHO now recommends a dose of only 10 mg. The authors of the present study choose 100 mg because only 200 mg tablets are available in the UK.

There is now a strong case to consider the use of mifepristone in emergency contraception. The cost of mifepristone (Mifegyne®) 100 mg is about £7 in the UK while levonorgestrel (Levonelle®) is £5. Probably the WHO recommended dose of 10 mg for mifepristone is adequate and if available should make this method the cheapest. However, Exelgyn, the manufacturers of Mifegyne® have told me that they are awaiting the outcome of current research before considering promoting this method.

Reviewed by **Mr Michael Cox**, FRCOG, MFFP
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Oral contraceptives and the risk of breast cancer. Marchbanks PA, et al. *N Engl J Med* 2002; **346**: 2025–2032

This is a case-controlled study from five centres in the USA co-ordinated by the Center for Disease Control and Prevention, Atlanta, FL, USA. A total of 4575 women with breast cancer and 4682 without breast cancer, all aged 35 to 64 years, were interviewed with regard to their history of taking oral contraceptives. Eleven possible confounding variables were considered including age, race, smoking, breastfeeding, and so on.

The overall relative risk was 1.0 for current oral contraceptive users and 0.9 for previous users. The relative risk did not increase with longer periods of use or with higher doses of oestrogen. Results were similar among black and white women. Use by those with a family history of breast cancer was not associated with an increased risk nor was the initiation of oral contraceptive use at a young age. There were no consistent differences according to the type of progestogen used.

Previous reports have given slightly conflicting results concerning this problem. The Cancer and Steroid Hormone (CASH) study of 1986 did not show an association between oral contraceptive use and breast cancer. However in 1996 a meta-analysis of data from 54 studies had suggested a slightly increase risk, the relative risk being 1.24.

An editorial in the same issue (*N Engl J Med.* 2002; **346**: 2078–2079) comments on the Marchbanks study under the title 'Good News about Oral Contraceptives'. This points out some possible weaknesses of the meta-analysis and observes that the present study clearly confirms the CASH study. Indeed the CASH study suggested that further study to determine late effects may take a decade or more to resolve. Sixteen years later the present study provides that resolution.

Reviewed by **Mr Michael Cox**, FRCOG, MFFP
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How can we develop a cost-effective quality cervical screening programme? Wilson S, Lester H. *Br J Gen Pract* 2002: **52**: 485–490

Currently 90% of women are screened in the general practice setting. The authors propose that too many women are being screened too often. Greater quality rather than quantity is needed. They suggest that reducing the screening programme to cover 25-50 year olds only every five years would provide substantial savings. These savings could be used to increase the quality of screening of this relatively rare disease. 'Never-screened' women in lower social classes constitute the group that justifies most extra targeting instead.

Reviewed by **Penny Watson**, MFFP, MPH
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Bacteriological cultures of removed intrauterine devices and pelvic inflammatory disease. Tsanadis G, Kalantaridou SN, Kaponis A, et al. *Contraception* 2002; **65**: 339–342

This was a prospective study to examine the effects of intrauterine devices (IUDs) on pelvic inflammatory disease (PID), the detection of microorganisms from the culture of removed IUDs and the incidence of uncomplicated genital tract infections. Previous studies had shown the direct association between PID and the use of an IUD to be scarce.

Two hundred married and parous women were recruited and each was fitted with a copper Multiload 250. The end point of the study for each woman was the evidence of PID or after removal at 3 years. Women were excluded if they had an allergic reaction to copper, history of ectopic pregnancy, history of sexually transmitted infection (STI), history of PID, genital tract malformation, genital malignant disease or blood clotting disorders. It would seem that the population was very select, especially in relation to the aim of the study. The authors reported that the population was representative of their IUD users in the area.

The women were all tested for STIs before fitting and were only given antibiotics if necessary. The vaginal and endocervical swabs showed a positive culture rate of 60.5% before fitting and 89.5% at follow-up. The cultures showed the normal spectrum of vaginal organisms with *Gardenerela vaginalis* most prominent before fitting and *Candida albicans* at follow-up. There were no STIs detected. Smears done before and after fitting were negative for *Actinomyces*. There were no cases of PID reported.

The IUDs were removed at 3 years and their threads were removed. Both were sent for culture. The cultures showed positive in 94.5% cases. The most common organisms were *Staphylococcus* coagulase-negative, *Escherichia coli* and *Enterococcus faecalis*. The authors felt that this high contamination rate was due to the IUD being contaminated at the time of removal though the cervix and vagina.

The study seems to fail in its aim as there were no cases of PID reported. This is probably due to their selection of women and an absence of STIs in this population. Even so, it shows high percentages of positive culture results both before and after fitting and nearly every IUD was contaminated. It gives reassurance that in women who are carefully selected for IUD fitting and have no risk factors for STIs, even if there appears to be an abundance of commensal organisms, these do not contribute to PID.

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Myocardial infarction and third generation oral contraceptives: aggregation of recent studies. Spitzer WO, Faith JM, MacRae KD. *Hum Reprod* 2002; **17**(8): 2307–2314.

This study aggregated seven recent epidemiological studies that investigated the risk of myocardial infarction (MI) in users of second- and third-generation combined oral contraceptives. Together the seven studies involved nearly 6500 women from 1996, and the authors compared the results with those from earlier reports between 1966 and 1995. The aggregated results confirm that all the oral contraceptives studied did not show an excess of risk for MI when used according to their regulatory labels. MI is rare in women of reproductive age and the absolute rates of occurrence reported in these studies was even lower than the rates reported in studies between 1966 and 1995. Not all the studies in this aggregation reported absolute rates, but the authors estimated from the studies that the rate in those women on oral contraceptives (either second- or third-generation) could not be more than 0.6–1.8 per 100 000 women per year. The 22 studies from 1966 to 1995 gave rates of 1.5 in non-pill users and 13 in pill users (per 100 000 women per year).

The data confirm that women with risk factors should be treated with caution. Smoking and hypertension are major risk factors for MI. The authors' interpretation of the data from this aggregation is that for women with minor risk factors such as a family history of MI, the use of third-generation oral contraceptives may be slightly more favourable than that of second-generation oral contraceptives.

In practice, it seems likely that this study will make little impact on prescribing. It may help clinicians to give fuller information to women with minor risk factors and help in the choice of contraception. For the majority of women, the study shows that the risk of a MI is so low that it is unlikely to play a major role in the discussion of the relative benefits and risks of particular contraceptives.

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