from the preoperative day up to the seventh postoperative day with a Pitman ratemeter No 235. Reading, as a percentage of heart count were recorded direct. Each patient’s scans were analysed according to four different criteria (see below), all of which have been regarded as diagnostic by different authors. The last of these criteria has usually been used in combination with other criteria, and others have used a 15% differential. In each instance the scan was regarded as positive only if the criteria were met for 24 hours or more. Confirmation of a diagnostic count has not always formed part of the criteria; not to have done so here would have resulted in a higher number of positives, particularly when analysed by the first criterion, as shown.

Much the highest number of positives is recorded when comparison is made with the preoperative count. Mr Roberts’s suggestions for improved accuracy are desirable, but some of the attractions of the ratemeter compared with the scaler are then lost. Whether or not all these suggestions are followed, we think that only criteria which involve comparison on the same day should be used; in this way the effect of background, which forms an increasing proportion of the count, is minimised and the importance of daily variation in the magnitude of the background is decreased. During the first few days, a distribution of 19F-fibrinogen between intravascular and extravascular spaces is changing and so is the geometry of counting—not only of the legs but of the precordium. We have found a general increase in later leg counts and think that the relative proportion of count formed by extravascular fibrinogen increases more in the legs than the precordium. We realise that the same percentage reading on one day may still represent a different magnitude of counts on another, but we think this is a further reason why comparison with a former count is best avoided. Although the rise of fibrinogen and other venograms would seem to be greater if comparison with a former count is excluded, the diagnosis based on such criteria correlates well with phlebography.

Promiscuity and infertility

**SIR,—**With reference to your leading article (30 August, p 501) there may be other effects of promiscuity than that of venereal disease and promiscuous infertility. Green-Armytage,1 reported in 1943 from the West London Hospital that a group of 20 recently married women who did not use artificial contraception observed over a period of two years and compared with a group of similar women who used barrier methods. The 20 who did not use artificial contraception developed what Green-Armytage called full maturation of the uterus and a high proportion became pregnant, while the 20 who used barrier methods retained what he called a hypoplastic or pre-martial state of the uterus and five developed ectopic pregnancies. I have looked through the Index Medicus and made other inquiries but have not been able to find reports of a confirmatory or conflicting nature. Would it not be possible to repeat the investigation using, at the end of two years for two such groups, assays of oestral levels in the plasma and of macrophage and lymphocyte competence? The interpretation of such assays might be of interest.

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1 Green-Armytage, V. B. Proceedings of the Royal Society of Medicine, 1943, 35, 105.

Complications of central venous catheterisation

**SIR,—**The complications of central venous catheterisation are important, and Dr M J Greenall and his colleagues (14 June, p 595) have raised some provocative technical points.

Radiographic visualisation of the catheter is essential as soon as practicable after insertion. Only radio-opaque catheters are acceptable when aspiration is always possible to x-ray a patient immediately after insertion of a central venous catheter and before its use for fluid infusion. The following technical points help to reduce the possibility of acute complications.

(1) Advancement of a correctly placed catheter is gentle and easy.
(2) Do not coil a long catheter up in the right atrium (or subclavian vein) too far. Location of the tip in the isosplanchnic plane is preferable.
(3) After insertion and before fixing the catheter attach a syringe containing isotonic saline, inject a millilitre or so to clear any clot, and aspirate blood into the syringe. Do not use anode force when aspirating. If the tip is lodged incorrectly or against the intima of a central vein excessive force is pointless and perhaps even harmful. Should gentle aspiration not produce free-flowing blood inject a little more saline, withdraw the catheter 2 cm, and repeat the aspiration test. Failure to obtain blood is a contraindication to further use of this catheter.
(4) Connect the intravenous drip and observe that it flows freely. The meniscus in the central venous pressure manometer tubing should fall freely to a "sensible" pressure. Erratic pressure measurements may be an early sign of an incorrectly placed catheter.
(5) Compress each side of the neck separately. A rise in the central venous pressure greater than 10 cm H2O suggests the catheter tip is in an isosplanchnic or subclavian vein.
(6) Look at the meniscus and look for two distinct oscillatory patterns: (a) a larger amplitude respiratory oscillation (right ventricle)! by advancing 5 to 10 cm. Location of the tip in the isosplanchnic plane is preferable.
(7) Look at the meniscus and look for two distinct oscillatory patterns: (a) a larger amplitude respiratory oscillation (right ventricle) by advancing 5 to 10 cm. Location of the tip in the isosplanchnic plane is preferable.
(8) Look at the meniscus and look for two distinct oscillatory patterns: (a) a larger amplitude respiratory oscillation (right ventricle) by advancing 5 to 10 cm. Location of the tip in the isosplanchnic plane is preferable.
(9) Look at the meniscus and look for two distinct oscillatory patterns: (a) a larger amplitude respiratory oscillation (right ventricle) by advancing 5 to 10 cm. Location of the tip in the isosplanchnic plane is preferable.