much as it is to be regretted there is in London no Hospital for children.

Within two years of writing this letter West had resigned from the Royal Universal Dispensary and, as Dr Loudon relates, was planning a new hospital, which was to be the Hospital for Sick Children, Great Ormond Street. It was opened in 1852 but Belfast had to wait until 1873 for its Hospital for Sick Children and by then Malcolm had been dead for 17 years.

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loss greater than 500 ml) is low; secondly, that in nulliparae the mean blood loss does not differ significantly in the groups studied; thirdly, that a slight but significant ($P < 0.05$) difference in mean blood loss is found in parous women; and, lastly, that irrespective of parity extra-amniotic priming of the uterine cervix with PG gel does not affect the risk of postpartum haemorrhage.

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¹ Calder, A A, Embrey, M P, and Tait, T, *British Journal of Obstetrics and Gynaecology*, 1977, **84**, 264.

Induction of labour and postpartum haemorrhage

SIR,—Together with my fellow staff members, we felt somewhat uneasy after reading a report by Surgeon Commander P R S Brinsden and Mr A D Clark (23 September, p 855) and Mr I Z MacKenzie's recent analysis (17 March, p 750), which indicate that postpartum haemorrhage is to be considered a complication of labour induction. In a recent letter (28 April, p 1147) Surgeon Commander Brinsden and Mr Clark produce additional data confirming their earlier conclusion, underlining that the risk of postpartum haemorrhage is greater in induced primiparae and that it is probably related to the dosage of oxytocin infused.

We asked our computer to provide us with the results of our last two years' activity and strictly adhered to Mr MacKenzie's methodology for the analysis of the data. To augment labour intravenous (IV) oxytocin was used throughout, and the method applied for labour induction (in all the cases electively—that is, at term and with a ripe cervix) consisted in low amniotomy supplemented by IV oxytocin or IV prostaglandin E_2 (PGE_2) when necessary. Finally, preinduction cervical ripening was attempted according to the method proposed by Calder¹: a single dose (0.5 mg) of PGE_2 suspended in 8 ml 5% hydroxyethyl-methylcellulose (Tylose) gel was instilled into the extraovular space through a transcervically placed Foley catheter and the device was left in situ until it was either expelled spontaneously or withdrawn at reassessment of the cervix. Our routine is to inject 0.2 mg IV methylergometrine (Methergin) just before or immediately after the delivery of the anterior shoulder. When IV oxytocin or PGE_2 has been administered (for induction or augmentation of labour) the infusion is discontinued only after completion of the fourth stage of labour.

Our data are summarised in the table. They indicate, firstly, that the overall incidence of postpartum haemorrhage (estimated blood

Relief of postoperative pain

SIR,—I would agree with Dr M Rosen and Professor M D Vickers's comments (12 May, p 1278) on Dr Jeremy J Church's paper (14 April, p 977) to the effect that the patient is the individual who actually experiences pain, and therefore if pethidine or other narcotic analgesics are being given to counteract it the patient should ideally have control of the dosage. Experience with labouring women has indicated that if they have control of the amount of pethidine they are receiving by continuous intravenous infusion they do not take excessive amounts compared with those receiving the drug by intermittent intramuscular injection, but dose and timing are tailored to their personal need.¹

Sleep precedes significant respiratory depression and an arrangement which ensures that administration ceases when the patient goes to sleep has much to commend it. The Cardiff system is based on microelectronic technology whereas the Leeds method involves a spring clamp with a number of simple mechanical safety features, which puts the dose regulation literally within the patient's own grasp. Even if the cost of the Cardiff apparatus comes down significantly, it remains a matter of conjecture whether problems of serious malfunction will be more likely with electronic than mechanical systems—my hunch would be that mechanical ones may prove more robust.

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¹ Scott, J S, *American Journal of Obstetrics and Gynecology*, 1970, **106**, 959.

Ultrasound estimation of gestational age

SIR,—Mr A F J Atkins (5 May, p 1215) is right in emphasising the importance of accurate dating of pregnancies, and an early ultrasound scan is useful not only for this but also for detecting physical abnormalities in time for termination of grossly abnormal pregnancies. We share his surprise at the method which Professor C J Roberts and others (14 April, p 981) reported using, and support the use of a combination of A and B scans to obtain a precise measure of the biparietal diameter (BPD).

Our main concern, however, is with the accuracy of estimating the duration of gestation from an early BPD measurement. The figures of Professor Roberts and his colleagues suggest that the duration of gestation

based on ultrasound BPD was on average about half a week less than that based on the first day of the last menstrual period (LMP). This leads us to wonder whether the authors have made the common mistake (which we have ourselves made in the past) of using a curve that is 0.5 weeks further to the left than it should be. Campbell and Newman's table¹ gives mean BPD by length of gestation (derived from the LMP of women sure of their dates and who delivered spontaneously within a week of the expected date of delivery). It groups the patients by the number of completed weeks, so that for each group the average duration of their pregnancies is half a week more than the figure in the table.

We compared the BPD- and LMP-derived gestational ages in 165 singleton pregnancies in women with reported cycle lengths in the range 26–30 days (inclusive), whose LMP was not an oral contraceptive withdrawal bleed. The BPD was measured at between 15 and 20 weeks' gestation by the combined A and B scan method. For each patient the BPD-derived gestational age was subtracted from that derived from the LMP. There were three cases with differences of 35, 40, and 41 days, which presumably represented delayed ovulation that would have resulted in long cycles. The differences in the other 162 ranged from –18 to +23 days and had a mean of only –0.3, with a standard deviation of 5.3 days. This implies a 95% confidence interval of the duration of gestation derived from a BPD, measured in this way by skilled operators, of ± 10.3 days, which is an adequate level of precision to be useful for many clinical purposes.

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¹ Campbell, S, and Newman, G B, *Journal of Obstetrics and Gynaecology of the British Commonwealth*, 1971, **67**, 1414.

Overseas aid—urban hospitals or primary care?

SIR,—I am most grateful for the short and obvious answer given by Dr A W Williams in his letter (12 May, p 1286) on the subject of urban hospitals and primary health care in the developing countries. It is unfortunate that Dr J S Yudkin's letter (21 April, p 1087) was based only on the brief information given by Minerva (31 March, p 897) concerning what must be viewed as an integrated health development project.

The rebuilding and equipping of the Mbeya Hospitals were requested by the Ministry of Health in Tanzania as part of a plan to improve health services throughout the southern regions. The Overseas Development Ministry has inputs at all levels of health care in these regions. (1) Villages: An environmental sanitation programme is being mounted in two pilot areas, linked with piped water supplies, with a view to later extension on a district and regional scale. (2) Dispensaries: As part of the national integrated tuberculosis and leprosy programme microscopes and bicycles are being made available to all dispensaries to improve case identification and contact tracing. Land Rovers are also being provided for district TB/leprosy co-ordinators. (3) Health centres: Six new health centres are being constructed in

Postpartum haemorrhage (PPH) and onset of labour in Gent 1976–8

	Nulliparae		Parous women	
	Total	No (%) with PPH	Total	No (%) with PPH
Spontaneous labour ..	650	13 (2.0)	690	8 (1.2)
Augmented labour ..	320	11 (3.4)	251	8 (3.2)
Extra-amniotic PGE_2 gel before induced labour ..	225	6 (2.7)	155	2 (1.3)
Induced labour ..	246	4 (1.6)	377	14 (3.7)

χ^2 test, 3 DF: nulliparae NS; parous women $P < 0.05$.