lung metastases of adenocarcinoma of the colon in another. A temporary improvement in neurological signs occurred in another patient with spinal deposits of adenocarcinoma of the colon. In a patient with lung and liver metastases of rectal adenocarcinoma there was a reduction in the size of the liver, but this may have been due to treatment of congestive cardiac failure with digoxin and diuretics. There was no improvement in two patients with metastases of anaplastic carcinoma of the breast and ovary although the latter showed exceptionally high F.D.P. levels (1,500 $\mu\text{g}/\text{ml}$) during treatment.

Fibrin degradation products have been observed in women with malignant ovarian metastases,^{2,3} and may be derived from breakdown of plasma fibrin following release of thromboplastic substances into the circulation. We suggest that some of the F.D.P. occurring during anrod therapy may be derived not only from the expected breakdown of microclots in the circulation but also from degradation of fibrin filaments in the tumour.

It may well be that the malignant cells are exposed free from their surrounding sheath of fibrin filament and may perhaps be more susceptible to cytotoxic therapy.—We are, etc.,

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ELIZABETH MAUGHAN

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¹ Austin, J. P., and Glaser, E. M., *Clinical Science*, 1969, 37, 878.

² Astedt, B., Svanberg, L., and Nilsson, I. M., *British Medical Journal*, 1971, 4, 458.

³ Astedt, B., Svanberg, L., and Nilsson, I. M., *British Medical Journal*, 1972, 2, 47.

Future of Postgraduate Medical Centres

SIR,—It is a pity that your leader writer (3 June, p. 547) allowed his indignation to get the better of him in springing to the defence of Drs. John Lister and David Ferriman (3 June, p. 589). A leader in the *B.M.J.* may have widespread influence, and it is particularly important at the present time that postgraduate education in hospitals should not be seen as a narrow sectarian interest of the medical profession. Besides, have doctors forgotten the debt they owe nursing schools for help in the days before there were postgraduate centres?

Our own centre, built eight years ago, is bursting at the seams. Our policy has been that the building should be used by any discipline for educational purposes, but it is increasingly difficult to accommodate all comers, with the so-called radiography and midwifery schools, for example, having inadequate accommodation and groups like physiotherapists, laboratory technicians, and administrative staff none at all. Our personal opinion is that an adequate institute, far from being a tidy administrative arrangement, would bridge the gap between medical, nursing, technical, and administrative staff. Successful treatment of patients in hospital depends on teamwork. Sharing facilities for education must surely help to unify the team and improve its performance. It should also promote friendly relations between all types of staff, and under such circumstances pleas from doctors to preserve their independence would be unthinkable.

Such an institute would have the added advantage of ensuring a decent-sized lecture theatre (which no postgraduate centre can provide on its own), proper dining facilities, a large multidisciplinary library, and a

common room for all staff. Overnight accommodation for visitors might also be considered, and it has been suggested that recreational facilities, quite inadequate in most district hospitals, might be added. Of course we would expect separate facilities for individual users, and if there has been dispute in the past between medical staff and others over the use of an educational institute, it is surely interpersonal relationships rather than the principle that should be questioned. Our worry is that the Department of Health will not think big enough, because such an institute will cost several hundred thousand pounds compared with the £12,000 spent on our centre eight years ago.—We are, etc.,

P. GILROY BEVAN
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SIR,—I would be grateful for an opportunity to comment in your columns on the issue of postgraduate medical centres and the related subject—the training of doctors in management.

I agree entirely with the sentiments expressed by Dr. C. P. B. Brook and Dr. A. Keep (24 June, p. 769), and would like to add that in my view the education of doctors in methods of administration and insight into the role of others in the paramedical fields in the patient-care situation should begin as early as possible in their careers, even in their undergraduate days should the curriculum allow. A knowledge and understanding of the functions and responsibilities of the lay (non-medical) administrator, especially in the hospital environment, will break down barriers of contention and open the way to a situation where the roles are clearly identified and regarded with that degree of deference that the important discipline of management deserves. The complete and total care of the patient with a multidisciplinary approach to the problem is, I believe, the only answer in an increasingly complicated social structure such as ours and the development of multidisciplinary postgraduate centres where forward-looking attitudes can be fostered must surely encourage this concept, with ultimate benefit to the patient which is, after all, the primary object. Should the converse situation be perpetuated—that is, that the medical profession remains in splendid isolation, as it were, and the doctor, and only the doctor, is the person who treats the patient and thus knows best—this is a concept out of keeping with modern trends where community and preventive medicine, including psychiatry, are practised with no small measure of success.

I trust, therefore, that in the future postgraduate medical centres will in fact have a multidisciplinary orientation, and that the doctor will continue to spearhead the team.

To those critics who would suggest that doctors have little if any role to play in management, I would remind my colleagues that if the medical profession does not manage its affairs and take an active interest and participate fully in administrative matters as it concerns them, then others will do it in their stead and without the benefit of their expert advice.—I am, etc.,

DENIS CRONIN

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Adenovirus Demonstrated by Immunofluorescence

SIR,—Many acute respiratory virus infections have been rapidly diagnosed by immunofluorescence^{1,4} and this technique has now been applied to the diagnosis of adenovirus infection. Sixty-five adenoviruses were isolated from nasopharyngeal secretions of 1,028 children admitted to hospital with acute respiratory infections. Staining of cells in these 65 secretions by the indirect immunofluorescent technique showed that 42 were negative for adenovirus and only 23 (35%) were positive. Fluorescent positive cells occurred most frequently in upper respiratory tract infections (18 out of 23) but rarely in croup, bronchitis, bronchiolitis, or pneumonia.

It would appear, therefore, that although 6.5% (65 out of 1,028) of acute respiratory infections of childhood were associated with adenovirus, only 2% could be diagnosed by immunofluorescence. This small number of patients that could be diagnosed and the mildness of the illness caused by the majority of adenoviruses would suggest that immunofluorescence for the diagnosis of respiratory infections by this group of viruses is uneconomical. The reason for only one-third of adenovirus infections being visualized by immunofluorescence in cells of the respiratory tract is, at the moment, unknown, but may reflect active infection in those cases with positive cells in contrast to the other patients in whom the infection may be of longer standing and not necessarily related to the current acute illness.—We are, etc.,

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¹ McQuillin, J., and Gardner, P. S., *British Medical Journal*, 1968, 1, 602.

² Hers, J. F. Ph., van der Kuip, L., and Masurel, N., *Lancet*, 1968, 1, 510.

³ McQuillin, J., Gardner, P. S., and McGuckin, R., *Lancet*, 1970, 2, 690.

⁴ Gardner, P. S., McQuillin, J., McGuckin, R., and Ditchburn, R. K., *British Medical Journal*, 1971, 2, 7.

Total Hip Replacement

SIR,—I was very interested to read the articles by Dr. Jacqueline Harris and others (24 June, p. 750) and Mr. R. C. Todd and others (24 June, p. 752). I have recently carried out a review on 778 patients over the age of 70 years, with various types of hip lesions¹ treated by the Charnley method at the Centre for Hip Surgery, Wroughton, and I thought it might be interesting to note a few of the results for comparison.

My review was aimed at discovering the complications of the procedure rather than assessing the actual functional results, which of course, has been done by Mr. Charnley himself.² In this series only one patient had a deep infection which required removal of the prosthesis, and 3.2% (25 patients) had superficial wound sepsis, which cleared up before the patient was discharged from the hospital. There appeared to be no significant difference in the sepsis rates according to aetiology, although it is well known that revision operations carry a higher risk than primary procedures.

I did not review trochanter detachments,

but these have been under review at Wrightington and the findings agree with those presented in the articles mentioned. I felt that the number of cases, 49, under Dr. Harris *et al.* was insufficient for drawing much in the way of statistical conclusions, especially for comparison with the other series. I noticed that there was no mention of mortality in the first paper and only 1% mortality in the second series of 352 osteoarthritic hips. In the older age group, which I studied, the overall mortality was 2.6% and it was interesting that the mortality was 5.2% in the males and only 1.8% in the females, which confirms the clinical impression of many people that elderly men do not withstand surgery as well as women.

The cases included operations performed by registrars, senior registrars, and consultants, so we may conclude that at least some of the reduction in sepsis was due to clean air and the body exhaust system in use at Wrightington. Also, all the cases reviewed had their operations at least 18 months prior to review.

In spite of careful selection the mortality in elderly males is high, so great care must be taken in ensuring that the indications for surgery are sufficient.—I am, etc.,

M. E. CAVENDISH

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1 Cavendish, M. E., Internal Publications, Wrightington Hospital, East Liverpool Regional Hospital Board, 1972.

2 Charnley, J., *Journal of Bone and Joint Surgery*, 1972, 54B, 61.

Radiation Menopause

SIR,—While agreeing fully with the conclusions reached in your leading article (13 May, p. 365) on the place of irradiation menopause in the management of dysfunctional uterine bleeding, I feel that not enough distinction has been made in the literature on the relative efficacy of a menopause induced by deep x-ray therapy as opposed to the use of radium, since the side effects of the latter procedure are considerably greater.

Radiation menopause was used freely in the Plymouth clinical area after 1948 to induce a menopause in dysfunctional bleeding, because the waiting list for hysterectomy was so long. In 1962 at the request of the late Austin Concanon, F.R.C.O.G., I attempted a survey of the results and feel that these may be of interest. From 1948-57, 678 patients were treated by deep x-ray therapy and a total dose of between 850 and 900 r was given in three consecutive daily treatments to the midpoint of the pelvis. During the first five years 18 patients out of 380 required further treatment, while in the second five-year period four patients only needed it. There was no primary mortality rate, but at the time of my survey nine patients had died; seven from unrelated causes, but it was significant that two died of ovarian carcinoma. Three cancers of the uterine corpus had been detected following irradiation up to the time of the survey, and treated by hysterectomy.

In an attempt to investigate the morbidity of the method of treatment all 292 patients treated in the second five-year period were invited by letter to attend an outpatient clinic. Unfortunately only 163 were eventually seen; Plymouth at this time had a

shifting population due to Service movements and re-settlement so that it was not felt that the survey had any validity and it was not published. The results obtained are best summarized as follows:

Total number interviewed	163
Treatment effective	160
Glad they had it done	154
Would have preferred hysterectomy	8
Would recommend treatment	151
Complained of nausea	4
Complained of flushing and other menopausal symptoms	5
Hysterectomy performed later	3

Evidently the charge could be levelled that only the satisfied clients had been interviewed, but the low incidence of side effects surprised me. The majority of patients admitted to symptoms of lassitude and depression in the week following treatment, but postirradiation nausea was unusual. The impression at the end of this survey was that subject to the safeguards emphasized in your leader there was still a place for radiation menopause in the treatment of dysfunctional bleeding, particularly where a long waiting list precluded early hysterectomy as a definitive treatment.—I am, etc.,

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Lithium-induced Diabetes Insipidus

SIR,—At least in a detail your leading article "Lithium-induced Diabetes Insipidus" is misleading (24 June, p. 726). It misquotes Harris and Jenner¹ as implying that caesium and lithium have similar inhibiting effects on the action of vasopressin. In fact, they got no clear results studying caesium. The reference to Hynie and Sharp² which is from work on toads' bladders is also very selective, for in that system potassium, magnesium, barium, manganese, calcium, and strontium all inhibit vasopressin.^{3,4} Further using that model lithium inhibits the effects of cyclic A.M.P. on water transport.⁵

It is difficult to get all these things right, and perhaps of little relevance to a general clinical audience, but nevertheless I hope you feel worth correcting.—I am, etc.,

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1 Harris, Carol A., and Jenner, F. A., *Journal of Physiology*, 1969, 203, 73.

2 Hynie, S., and Sharp, G. W. G., *Journal of Endocrinology*, 1971, 50, 231.

3 Bentley, P. J., *Journal of Endocrinology*, 1959, 18, 327.

4 Harris, Carol A., and Jenner, F. A., *British Journal of Pharmacology*, 1972, 44, 223.

5 Harris, Carol A., and Jenner, F. A., *Journal de Pharmacologie*, 1971, 2, 215.

Payment by Colour

SIR,—Although we have been tremendously interested in the arguments on "Payment by Colour" pursued in these columns we have refrained from contributing to them for a number of reasons, one of which is that our point of view coincides largely with that of Dr. A. B. Kazi (27 May, p. 532). However the opinions of Dr. J. K. McKechnie (29 April, p. 291) and Dr. W. P. P. Leary (17 June, p. 715) require reiteration of

certain facts and clarification of the issues involved in South Africa.

The failure of the South African government to provide essentials for its Black majority and its policy of naked discrimination need no elaboration here. The point at issue is whether the *B.M.J.*, with its non-racial principles, can be consistent in advertising hospital and university posts in South Africa. If Dr. McKechnie's and Dr. Leary's suggestions are followed, we feel that the *B.M.J.* would be helping to perpetuate the iniquitous sequence of events which result in poor medical services in South Africa and the neglect of Black needs.

It is our opinion that the *B.M.J.* would be working in our long term interests if it discontinued advertising for these posts from South Africa. In view of the outstanding service of the mission hospitals to the poor and needy in this country and their policy of non-discrimination, we feel that this restriction should be relaxed in respect of their needs.

Your two correspondents from South Africa display an inadequate understanding of the problem when they say that it is the Black who will suffer if the inflow of medical personnel into South Africa is reduced. The real problem of course is the policy of this Government, which does not provide adequate education for the Blacks, which refuses to build more hospitals for us, and which keeps us in this continuing inferiority by countless measures. Our poverty contrasts with the Whites' affluence and our lack of skills with their technological superiority.

We need to consider then whether the immigration of foreign doctors would actually benefit our cause or rather work against us. The paucity of medical services for the Blacks is due entirely to a lack of Governmental concern for our needs. We can, by discouraging the inflow of foreign doctors, bring to bear on the Government the full brunt of its actions, or rather lack of them, and thereby compel it to pursue a more humane and realistic course. Immigration lends support to the structure of apartheid.

By discouraging the inflow of medical personnel into South Africa we would be in line with popular thought in industry which favours the training of Black workers for skilled jobs rather than the filling of these posts by White immigrants. Economic pressures have compelled the Nationalist Government to accept these realities with the result that we see more opportunities being created for Blacks—for example, in the railways, where these had previously been reserved for Whites.

The former Dean of Johannesburg, G. F. Beytagh, who has suffered for his espousal of humanitarian causes, has this to say to the British and European worker: "if you go to South Africa to work, you are a traitor to the cause of human freedom;" he also adds that "every skilled worker who goes there (South Africa) robs one African of the chance of improvement."¹

Dr. Leary's implied criticism of Dr. A. B. Kazi's establishing an urban rather than a rural practice reflects an ignorance of the laws in South Africa, which prohibits the residence of all race groups in the African rural areas. Dr. Leary's assertion that "the relative shortage of medical practitioners in the African areas is not entirely the fault