

that by the summertime he would be on minimum but effective treatment.

Our next call was to a young woman who was in the local home dialysis programme. As we entered Tina's portacabin with its miniature personalized renal unit Bertie could hardly stand without support. As we threaded our way carefully to the head of the bed Tina's mother greeted us.

'Oh doctor it's you, we thought it might be the home dialysis technician; there is something wrong with the 'mouse' and one of the artery clamps has fallen into the back of the machine!'

I must confess to having a soft spot for Tina: with a strong family history of hypertension she too had developed fulminating hypertension which had defied treatment and progressed to end stage renal failure. She and her parents had coped with the arduous and mentally exhausting dialysis training and the whole family now took the whole complex technical panoply on as though it were just another kitchen gadget.

Outside, her mother confided, 'She nearly had a kidney at the weekend. The people from the donor computer in Bristol telephoned to put us on standby, but in the end they had a better match in France and they only had the one kidney.'

'There will be another, I am sure; besides, you might as well get your money's worth out of all this,' I said, pointing back towards the portacabin.

As we drove home to lunch, I postulated that the new seat belt legislation recently promulgated might mean that Tina has a rather long time to wait for a donor kidney.

I do not know how the subject came up, but once again my old professor of surgery at Manchester managed to spoil our lunch when Bertie spotted an article in a recent British Medical Journal in which the technique of intestinal anastomosis using magnets was described.² In the same issue and on the opposite page was an article describing the use of

laser photocoagulation of senile macular degeneration.³

I introduced Bertie to my high fibre diet and preference for whole foods and we agreed that the high level of refinement in foods today was not one of the advantages of advanced civilized societies. There followed a somewhat unsavoury commentary on the expense of treating constipation with drugs and other prescribable diet aids when all that was really necessary was a modification of basic diet and life style.

Our visit after lunch was a routine postnatal call on a young mother, recently delivered of her third child, a healthy girl, by elective caesarean section. Bertie wanted to know whether I still carried any of the equipment out of his 'Middler' Bag. I admitted that I still had the bag, with its axis traction forceps and equipment for inhalational anaesthesia; but that the likelihood of my using it was very remote indeed. My summary of the pattern of modern antenatal care and subsequent paediatric surveillance obviously impressed him; especially the bit about perinatal mortality having fallen to below ten per thousand at our Plymouth District General Hospital. 'Yes, yes, yes,' agreed Bertie, 'but you have never experienced the pure joy of delivering a baby at home, have you . . . ?'

At this point I managed to get him off the track of home deliveries by offering him a visit to the local special care baby unit—a visit I shall describe in my next report of general practice in the Jet Age.

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ASPECTS OF PRACTICE

Ancillary staff for summarizing records

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The Joint Committee on Postgraduate Training for general practice has laid down as a guideline that in training practices all medical records should contain notes arranged in chronological order. Dr Baker describes how his practice tackled the next step—to complete a comprehensive typed summary for each patient's record.

ANYONE not acquainted with the history of general practice records would have been astonished to learn that training practices have had to be told to keep their records tagged in chronological order. Surely those practices selected for the job of teaching should have records that would be an example to the rest of us. The reasons for this state of affairs is not hard to find. The 10,500 files in our own practice have been handed down to us from previous generations of doctors in a totally disorganized jumble. To bring order to this chaos seemed at first a task too large to be accomplished.

Our initial attack on the problem was for each doctor to cull, file correctly and construct a comprehensive typed

summary for each of five sets of notes each week. After completing 548 records, we gave up. It had become obvious that we would never manage to summarize most, let alone all of our records, and we concluded that it was impossible for a busy practice to summarize all its records unaided.

Method

The alternatives were to settle for skeleton summaries only, or to employ someone to make full summaries for us. Previous reports gave us conflicting advice. Tomson summarized 90 per cent of his notes himself in six years. Stott summarized in three years at a cost of £2 for each folder and

263 hours of his time.² Zander and colleagues used 150 hours of doctors' time to make summary problem lists for 8,500 notes.³ However, Elliott completed only 120 summaries in one year,⁴ and Walker found sorting and pruning a better use of time than making summaries.⁵ Marsh and Thornham, when converting to A4 records, used a secretary to construct a summary sheet for 17,000 records.

We discovered that the typist who had typed our summaries was a nurse, and so after introductory training and supervision, we set her to work. Each record is sorted into chronological order and tagged; a summary on the pink FP9A card is made of medical, social and family history, plus details of important allergies or any reactions. A separate summary of investigation results is made on the blue FP9B card, and a drug record form is compiled when appropriate. Old letters are extracted, and these, together with the completed file, are handed to the responsible doctor who reviews the summary and inspects any redundant material before it is destroyed. Important diagnoses are entered into our diagnostic index. Inevitably, the process is continuous, for all patients who join the list must have their notes sorted in the same way. Sometime in the future, perhaps, this may no longer be necessary.

Results

We are happy with the quality of our summaries as we check each one and as the records secretary has undergone

thorough training. Working part-time, she has summarized over 2,000 notes. The first 1,000 took 102 working days, the time spent on each file being about 25 minutes. Allowing for 70 per cent reimbursement and tax relief for the secretary's salary, the cost has been 20 pence per file. The average number of whole-time equivalent staff employed per principal is only one, whereas we are allowed reimbursement for two. Perhaps a records secretary would be a sound investment for many other practices.

Acknowledgements

I would like to express my thanks to Jenny Davis, and to Drs Anthony, Harrod, Moss and Brown.

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Patients and radiation—an assessment of the risks

B. F. BURY

The radiologist's view: Dr Bury is senior specialist in radiology at Princess Mary's RAF Hospital at Halton in Buckinghamshire. He puts into perspective the hazards of radiation as they apply to routine referrals from general practice.

LIKE most practising radiologists I can be scathing in my criticism of clinicians who refer patients for 'unnecessary' investigations. However, as a sometime locum general practitioner I am uncomfortably aware that the request form, often the only contact between the radiologist and the general practitioner, may fail to tell the whole story. Quite apart from 'buying time' for the clinician, radiological investigation can act as a powerful placebo, and in this respect the value of a normal x-ray report cannot be overestimated. Only recently (March 1983, p.139) this *Journal* published an abstract of a paper demonstrating the positive symptomatic effect of a normal coronary arteriogram, and the same effect is undoubtedly seen with less sophisticated procedures. The general practitioner is the person to judge which of his patients are most likely to benefit from this, even though the investigation may not be justifiable on strictly clinical grounds.

If ionizing radiation were harmless we would not need to be so concerned about referral criteria, although we would still wish to avoid waste of time and resources. However, risks there undoubtedly are, and they should taken into account when deciding whether or not to refer a patient for radiography. I thought that it might be useful to review the hazards and try to put them in perspective, particularly at a time when patients are becoming more aware of the fact that medical investigation and treatment are not always wholly beneficial, and when new techniques are becoming available which can avoid the use of ionizing radiation.

The size of the risk

Although even the experts in radiation biology continue to argue about it, it seems probable that there is no such thing as a safe dose of radiation; that is, there is no threshold below which there are no harmful effects. This being so, it has become a basic tenet of radiation protection that even a tiny dose is potentially dangerous, and therefore to be avoided wherever possible.

In diagnostic radiology our main worry is that of genetic damage affecting future generations, and the risks will therefore apply more to younger patients and will vary in magnitude with the part of the body under examination. For example, radiography of the extremities, properly performed, should not involve any appreciable dose to the gonads. A plain film of the lumbar spine, on the other hand, cannot be performed without exposing the ovaries, and this needs to be taken into account when considering referral.

Table 1 shows the gonad doses achieved during some of the more commonly requested procedures. These figures are taken from a paper by Wall *et al.*,¹ and are broadly in accord with those quoted by other authors. They refer to the age group which most concerns us, namely 16-45 year olds. The differences between male and female levels are of course due to anatomical factors.

The important facts to glean from this table are that barium enemas, IVUs and views of the lumbar spine and pelvis will all give significant gonad (and fetal) doses, and