Oral prednisone at a dose of 0.4-0.5 mg/kg daily for one month, tapered over the following two months, was effective in this study; lower doses may also be effective but have not been tested.

Secondly, patients without clinical evidence of thyroid eye disease have a small risk (8% in this study) of developing ophthalmopathy and a very low risk (< 1%) of developing severe eye disease. It may be prudent to warn all patients of this possible complication, but the risks do not justify denying most patients the benefits of definitive treatment with radioiodine when indicated. In addition, the risks do not justify the routine use of corticosteroids in patients without ophthalmopathy.

Finally, it is known from previous research that smoking, a raised serum tri-iodothyronine concentration, and uncorrected hypothyroidism are also risk factors for thyroid eye disease after radioiodine.[1 4] To minimise the risk of thyroid ophthalmopathy as far as possible, patients should therefore be advised not to smoke, be rendered euthyroid with a thionamide before radioiodine, and be followed closely to detect and correct early hypothyroidism or persistent thyrotoxicosis.

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Reasons for not seeing drug representatives

Lightening workload, cutting costs, and improving quality

Many doctors—both hospital doctors[1] and general practitioners[2]—feel that their workloads are increasing. There is a sense that we are being overwhelmed by a multitude of calls on our time, fitting in management and administration, continuing medical education, teaching, audit, and appraisals over and above our basic clinical work. Why then do so many doctors still find time to see drug company representatives?

Most doctors still see them regularly and a few (perhaps about 10%) see them quite often (M Butterfield, personal communication: unpublished data from *BMJ* readers). Lexchin noted that representatives have traditionally been seen as the most important source of information about new drugs.[3 4] There may have been a time when representatives were the easiest source for finding out about pharmaceutical developments, but now there is ready access to a plethora of non-promotional, evidence based information in simple and digestible form on all the major therapeutic advances. Drug information departments additionally supply detailed advice on such matters as new formulations and interactions. There seems little or no need to see representatives in order to keep abreast of drug developments.

Indeed, strong reasons exist for *not* seeing representatives. Their job is primarily to sell their company's product. They are an important part of the pharmaceutical industry's promotion methods, and they are highly successful in altering doctors' prescribing habits. Work in Northern Ireland showed an increase in prescribing of various drugs that appeared to be greater than could be accounted for by an increase in patients with specific indications for these drugs.[5] The authors suggested that the profession may not have instituted effective checks to ensure that the promotion of new products did not lead to inappropriate or wasteful use. Not surprisingly, there is also evidence that the more reliant doctors are on commercial sources of information the less rational they are as prescribers.[3] This may mirror the circumstance, recently discussed in the *BMJ*, of conflict of interest in relation to review articles written by people with drug company links.[6] Such people are more likely to be sympathetic to the drug in question. Similarly, doctors are more likely to be supportive of—and prescribe—a drug promoted to them by a representative.

Drug companies might point out that their representatives provide information to clinicians faster and at an earlier stage than other sources. This may be true sometimes but does not of itself lead to good practice. Indeed it may have the opposite effect. At the time that new drugs are licensed there are often no published comparisons with existing standard treatments and rarely any economic evaluations. Thus the really useful information is often unavailable at this stage, and by the time it is, the sales force has moved on to talk about other, newer products. Rather than rushing to know the latest on every new drug, we should perhaps be more concerned about why some proved worthwhile treatments are so slow to be taken up, even when the evidence has been widely publicised.

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Increased costs of prescribing are likely to be a further consequence of contact with representatives. Selective serotonin reuptake inhibitors are just one example where promotion by drug companies has boosted sales far beyond levels that might have been expected if non-promotional literature had been heeded. Despite a widely available and authoritative review counselling caution in their use[7]—a policy subsequently born out by later evidence[8]—sales of selective serotonin reuptake inhibitors soared, with consequent increases in spending. As has been pointed out before,[9] these resources could perhaps have been better used elsewhere. Given the Byzantine nature of drug pricing in the NHS, it is a matter of speculation what effect there might be on drug expenditure nationally if we all stopped seeing representatives, but at local level it would be surprising if such a move did not bring real benefits.

Changing our habits may not necessarily be easy. Many drug company representatives are delightful and estimable individuals. They are friendly, helpful people who treat doctors with respect and value their time—not a reception doctors get from every quarter. Doctors in turn may feel a sense of obligation and may see representatives as a matter of courtesy. Can we really afford to do this? A particular group targeted by pharmaceutical companies are junior doctors—the prescribers of tomorrow. We should consider how this problem might be managed in hospitals and in general practice training by devising ways of educating new doctors about the pitfalls they may encounter in seeing representatives.

There is potentially much to be gained by changing our ways. We could cut costs, improve our prescribing practices—and save a little time in our crowded schedules. With more new and expensive drugs now hitting the market, this might be an ideal time for change.

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BMJ competing interest: The *BMJ* might possibly benefit financially if doctors were to see fewer drug company representatives because resources saved might be spent on advertising.

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Prescribing medicines for children

Major problems exist, but there are some promising developments

All parents would like the drugs administered to their child to have been fully evaluated using studies based in children (but not their child). However, infants and older children present a challenge for drug monitoring and testing, and there are far fewer clinical studies designed to test drugs in children than to test them in adults. The factors that limit such studies include technical constraints such as blood sampling. There are also ethical difficulties in involving children in studies that may not directly benefit them, even if the studies involve minimal risk. Fortunately, with the development of new non-invasive methods to measure drug concentrations therapeutic drug monitoring will be less limited by the necessity for blood sampling.[1] Moreover, drug regulatory authorities and professional bodies are beginning to address the need to test drugs for children in the same way as those for adults.

The disposition of drugs in children varies from that in adults because children differ from adults pharmacokinetically and pharmacodynamically. Factors such as growth, surface area, organogenesis, enzyme development, plasma and tissue binding, brain development, physiological and functional development, and psychosocial issues need to inform the development of new medicines in children. Unsurprisingly, adverse drug reactions are also different. The so called "grey baby syndrome" with chloramphenicol[2] might have been avoided with adequate knowledge of routes of metabolism and immature physiology, but other such deaths associated with propofol[3] remain poorly understood.

Many drugs given to children in the United Kingdom are unlicensed or prescribed "off label." The so called off label prescribing of a licensed medication to a patient outside the specification of the product licence involves medicines being administered by an unlicensed route, in an unlicensed formulation or dosage, or to a child below the stated age range. Yet without such prescribing effective treatment would be denied to many children. A recent British study found that one third of all patients admitted to a general paediatric medical or surgical ward received one or more unlicensed or off label drug during their stay.[4] In the United States nearly 80% of the new drugs approved in 1984-9 had no indication for use in children.[5] Some medicines given to children are not licensed for human administration at all. These so called "orphan drugs"—such as sodium benzoate, caffeine, tolazoline—are not licensed by their manufacturers because the cost involved in obtaining a licence may never be recovered.

Drug errors are a further important problem. Recent concerns about the deaths of babies who were

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