affection from lodging claims against them. In these circumstances it is hardly surprising that they only too readily refer cases for X-ray examination out of caution, lack of confidence in their clinical acumen, self-protection, to avoid the need for thought, or to shelve the immediate problem by passing it on to another department. Where the films provide no evidence of bony injury the tendency is to ignore the possibility of potentially serious nonbony injury, and, lulled into a false sense of security, to discharge the patient without adequate treatment or advice. In these cases where X-rays have been requested the paucity of clinical information on the request form often suggests that no proper inquiry has been made into the mode of injury, and whether or not X-rays have been taken the brevity of the case-notes does nothing to encourage the belief that a careful inquiry and examination has been carried out. It would be unrealistic to expect a detailed account of the history and examination to be recorded in each and every case which passes through an accident department but in the absence of X-ray films and of detailed records the defendant doctor is placed at a serious disadvantage when, perhaps many months after the event, a claim for damages arises. Matters which remain crystal-clear in the memory of the patient have faded beyond recall in the mind of the doctor and, apart from the evidence contained in the records, he can only say with more or less conviction that this is what he would have done in the circumstances.

Turning away from accident cases, I am surprised how rarely does an allegation of failure to X-ray figure in medical negligence claims in nontraumatic cases, and the incidence is hardly sufficient to cause the physician or surgeon to play safe simply out of fear of litigation. Delay in diagnosis of neoplastic conditions, for example, seems to be more readily accepted, even though the patient's life expectancy may have been considerably reduced thereby.

An entirely different aspect of the problem is the delay in commencing treatment required as a matter of urgency by embarking upon seemingly unnecessary investigations, both radiological and pathological, when the clinical diagnosis appears so obvious that an examiner in the Final MB would have no hesitation in failing a candidate who could not make it. Perhaps this is not so much 'defensive' as 'scientific' medicine.

In the more hazardous and complex X-ray procedures another issue is involved, and that is whether the likely benefits to be gained from the investigation outweigh the risks attached to its performance. Here it may be argued that in failing to acquaint the patient with the recognized hazards the doctor deprived him of the opportunity to exercise his reasonable choice, and that thereby his consent was uninformed and invalid. Fortunately, in such cases the radiologist is involved before rather than after the event and is in a position to question the need for the investigation and to make known his views to the requesting physician. Without enthusiasm for new techniques little progress in medicine would be achieved but this enthusiasm should be tempered with caution if litigation is to be avoided.

Finally, there is the purely medicolegal X-ray examination performed for the sole purpose of assessing the value of a claim for compensation, where the results of the examination have no possible bearing on the treatment of the claimant. I suggest that these do not constitute a proper use of NHS resources and should be dealt with on an entirely separate basis at the expense of the claimant or insurer.

It is only too easy to criticise our fellow professionals. Whether or not a request for X-ray examination is justified depends partly on the facts of the individual case but must remain largely a matter of opinion. My attention tends to be drawn to those cases where necessary X-ray examinations were not requested, but only the findings of comparative surveys can provide any indication of where the balance lies.

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A Coroner's View of Routine Radiology

Searching the *British Medical Journal* for the last twenty years I have been unable to find reported a single case in which failure to request an X-ray was established as the basis for a finding of negligence, and a request to the secretariat of one of the defence organizations for information about such a case failed to produce any references.

We all know, however, that every student and house officer is warned of the perils of omitting to ask for radiological confirmation of a diagnosis. The only reasonable deduction therefore which one can make from the dearth of recorded

cases is that this lesson was so effectively driven home that there is not in fact a body of recent cases – hence the problem.

The question in this discussion is whether we can reduce demand without appreciable risk to the patient or the doctor, and without, of course, seeking to undermine the legitimate claims of those who suffer loss as the result of negligent misdiagnosis.

The coroner does not have any jurisdiction to determine matters of negligence but he does in practice have to differentiate between natural and unnatural deaths. One of the features of the latter is that they are deaths which could have been avoided if those involved had acted differently. The criteria used to determine questions of negligence are applicable to this differentiation to the extent that an inquest becomes obligatory if *inter alia* there is prima facie evidence of negligence in the circumstances surrounding a death.

In *Hatcher* v. *Black* in 1954 Lord Denning made some general observations pertinent to this problem. He said that in a hospital when a person was ill and came in for treatment, no matter what care was used, there was always a risk; and it would be wrong and bad law to say that, simply because a mishap occurred, the hospital and doctors were liable. It would mean that a doctor examining a patient or a surgeon operating at the table, instead of getting on with his work, would be for ever looking over his shoulder to see if someone was coming up with a dagger . . . the jury must therefore not find him negligent simply because one of the risks inherent in an operation actually took place, or because in a matter of opinion he made an error of judgment. They should find him guilty when he had fallen short of the standard of reasonable medical care, when he was deserving of censure.

Reasonable care is that degree of care which would be exercised by an ordinary prudent practitioner of the same status as the defendant in like circumstances. It is characterized by: (1) Ordinary knowledge and skill appropriate to the status of the practitioner. (2) Carrying out all the procedures which would normally be carried out in the situation at issue. (3) Avoidance of untried procedures, except under special conditions. In other words, adherence to any accepted procedure.

Unfortunately, the profession has made a rod for its own back. By making radiology a routine request rather than the consequence of a clinical decision they have over the years created an 'accepted procedure'. This is dearly loved by advocates because it is identifiable and adherence to it is a matter of fact rather than opinion. Therefore, departure from it can be established, and once established is almost synonymous with negligence.

To illustrate my point let me quote from Lord Dunedin in *Martin* v. *William Dixon Ltd* (1909). He was speaking of errors of omission and said:

'I think it is absolutely necessary that the proof of that fault of omission should be one of two kinds, either to show that the thing which he did *not* do was a thing *which was commonly done by other persons in like circumstances*, or to show that it was a thing which was so obviously wanted that it would be folly in anyone to neglect to provide it.'

The profession, therefore, in relation to radiological requests, must revert to the standard of reasonable medical care referred to by Lord Denning in *Hatcher* v. *Black*. This means that radiology should be used only as the result of a clinical decision, based on a careful history and a thorough examination. The decision should take into account the undesirability of unnecessary exposure to radiation.

Obviously we must bear in mind Lord Dunedin's second method of proof and not deny radiology in cases where it is 'so obviously wanted that it would be folly in anyone to neglect to provide it', but for the remainder the decision should be part of the diagnostic process, a matter of judgment and of opinion.

Here, as we have seen in *Hatcher* v. *Black*, the law takes a view more helpful to our cause and Lord Denning's words were reinforced in 1957 when it was established in *Bolam* v. *Friern Hospital Management Committee* that 'an error of judgement in a matter which is essentially one of opinion does not constitute negligence'.

In any situation in which there is a choice of action with advantages and disadvantages attached to each course – as is the case with radiology – the choice must be a matter of opinion, unless, as I have said, the indications to one course are so overwhelming that they bring the matter within Lord Dunedin's second method of proof.

The question, therefore, which should be asked by the law is not 'What would the accepted procedure have been?' but 'Should there have been sufficient doubt in the mind of the diagnostician, after a careful clinical examination, to justify requesting a radiological examination?'

The answer to this clearly depends on the recorded results of the clinical examination, and the issue may then be whether that examination has been sufficiently thorough. This would place the emphasis where it belongs in medical tradition – upon the history-taking and examination.

The remedy for the present crisis in radiology – if that is not too strong a term – in my view rests largely in the hands of the medical profession.

The law will ask the right questions if the criteria for radiography are changed in the way I have indicated. If it becomes impossible for an expert witness to say that the normal practice would have been to request radiology, and he becomes obliged to say that the clinical findings would dictate the course of action, the question must then move to the clinical examination and the junior doctor will then quite properly concentrate his fears upon failing to do a thorough examination rather than failing to request an X-ray.

It is up to the senior members of the profession not only to set an example in this matter, but also to resist the temptation to give evidence for a plaintiff which does not accord with the principles which I have outlined. Legal representatives trying to establish a case can be very persuasive and the 'accepted procedure' method of proof is much easier for them to establish than the 'clinically necessary'.

Finally, I think that the Royal Colleges could play an active part in protecting standards of practice within their own fields by establishing separate committees – or better still, a joint committee – to consider the evidence given in actions for negligence and determine whether it is truly representative of the best standards of practice. Indeed I would go further and suggest that such a committee should be available for consultation by either party to such an action before the hearing, and be prepared to send a representative to the hearing to give expert evidence.

If properly interpreted and applied, the law does not expect the profession to depart from its own standards. The profession sets the standards and gives evidence of what they are.

To sum up – let us condemn and abandon the routine X-ray and let those who are called upon to give evidence in the courts stress the true purpose of radiology as an adjunct to clinical examination used only when it is seen to be necessary at the time, and not in retrospect. We cannot help those who omit it in the face of an obvious need, but the law is on the side of those who, after a careful examination, reasonably decide that it is not necessary, even if later proved by events to have been wrong.

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Medicolegal Aspects

I start from the very obvious and rather trite proposition that whether or not to request an X-ray is essentially a clinical decision. It is a question into which a lawyer should not intrude, because what a doctor considers to be medically right for his patient must prevail over purely medicolegal considerations. A doctor who is unduly preoccupied with possible legal consequences may be likened to a golfer who lifts his head at the crucial moment.

Speaking for myself, although I hope that most lawyers would agree with me, I accept entirely the order of priority which puts the proper treatment of the patient first and the avoidance of the risk of litigation last. But I agree with Dr France that the two are not necessarily mutually exclusive and need not be in conflict. More often they point in exactly the same direction. The best and most effective form of defensive medicine is, surely, to exercise the standard of skill and care which the law requires of a medical practitioner. That will not guarantee immunity against being sued by a litigious patient, but it should ensure that, if a claim is made, it will not be upheld.

One can sympathize with radiologists who feel that too many demands are being made upon them and their departments by requests for X-rays which they regard as unnecessary. And I do not doubt that, from excessive caution or lack of confidence or some other motive, casualty officers may often be tempted to pass the buck, both clinically and legally, on to the radiologist. I should, however, like to put in a plea in mitigation on behalf of casualty officers, because if they do err on the side of caution I am not sure that they can fairly be criticized for it.

Leaving aside mere tactical legal considerations it is, I think, agreed that the patient must come first. I do not suppose that any statistical comparison would be possible but when one is considering the cost of radiological services, as in the figures which emerge from the research at St George's Hospital, should one not also take some account of the additional discomfort and inconvenience which the patient will suffer, and perhaps the waste of his time and loss of earnings through longer absence from his work, if he is sent home with an undiagnosed fracture or harbouring a foreign body?

If a casualty officer has taken a careful history, made a thorough examination and found no evidence of a likely fracture or foreign body, and