Necessity for Surgical Audit

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For me the word audit has two meanings. Firstly, the regular study and analysis of facts about patients directly under one's own care; secondly, a more public accounting for practices, errors, and mishaps. The distinction is more than trivial in my specialty, for while the one may be accepted the other may be equally as strongly resisted or its purpose vitiated by the emotions it arouses. It is useful therefore to consider the two separately.

Analysis of Patients under Care

No one can deny the value of a continuous record of what one does and achieves in the repetitive situations typified by surgery. A business man needs control information about the product he makes and markets. Though surgeons do not work to achieve quite the same competitive goals as he, we are in the business of delivering health care and consequently should be equally interested in obtaining such information. And yet, particularly in Britain, we have been slow to do it. Principally I think that this is the consequence of the individualism of the surgeon and his essentially optimistic outlook, which tends to deny the existence of trouble—at least in his own wards. Nevertheless, other factors are our lack of knowledge of what we need to know and the relatively tedious and clumsy techniques for the collection of data. The job does not appear worthwhile, particularly when yardsticks which separate performance and process—a distinction which Sanazaro rightly emphasizes—are not easy to come by. How do we rate "patient satisfaction" or how trade off shortness of stay against the pressures put on surgical teams or the increased costs incurred by raising throughput?

All these things tend to make one fairly disenchanted with the type of information generated by patient activity study (P.A.S.), hospital activity analysis (H.A.A.), or local attempts to monitor how we are getting on. Certainly in Australia we were unable to apply P.A.S. to the day-to-day affairs of running our wards, perhaps because the information was designed with America in mind and was always slightly retrospective. I have yet to see H.A.A. in use at the bedside, though others may have been more fortunate. The best we seem able to do—and few even bother with this—is to keep an eye on waiting lists or assign dates of admission,[1] work out some simple and not always logical priorities, and do retrospective one-off analyses of matters that interest us. We surgeons are a cottage industry.[2]

Our past failures to define what we want or to devise practical methods of obtaining it are not an excuse for present or future inaction. Average figures on hospital stay, investigative profiles, and costs can easily be generated by systems such as P.A.S. and H.A.A. even though their clinical meaning is often obscure. Administrators like such indices and are clearly tempted to translate them into yardsticks for standards of good practice. From there to the allocation of money or other punitive steps is not a long journey, as is clear from the legislative measures described by Dr. Sanazaro. If we cannot come up with ways of accounting for the apparent vagaries of our clinical behaviour, we can scarcely blame others for moving into the administrative vacuum. We may still be a long way from this in Britain but the recent rapid developments in central control of medical manpower are a paradigm for what can happen in other fields if the doctor does not choose positively and constructively to manage his own affairs. Therefore we do need to look for methods which will make audit worthwhile.

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Future Possibilities

First, one needs to know what one does before one can analyse performance. This may appear a banal statement but I have found on numerous occasions that what one believes happens does not. For example, in the surgical and medical units of Monash University we set out to write down what we thought was our policy for diagnosis and management in patients with massive upper gastrointestinal haemorrhage. Eleven drafts later we had agreement on what we thought we did but it took 18 consecutive applications of the supposed drill to real patients before a comprehensive system analysis had emerged against which we could judge future performance. This analytic approach has now been applied to other conditions such as jaundice, radiological investigation of the biliary tree, bleeding problems in a surgical setting, and the management of patients with lumps in the breast. The systems analyses so produced (an example is given in fig. 1) provide a rapid, convenient method of checking performance in a non-parametric way. Thus they get over the difficulty of making a distinction between process and achievement.

Interestingly, a complementary approach is being undertaken in the Department of Medicine at the University of Adelaide.[3] There, a problem-oriented case record[4] is selected weekly for analysis and criticism by all staff. From this exercise are gradually developing systems analyses and flow charts of a similar kind to those used by us. The two methods of finding out and checking may be combined into the circle of audit shown in fig. 2.

Systems analysis of this kind based on problem solving is flexible and provides a constructive way of carrying out an audit of what one does with every patient that can be included in a flow chart. It can generate the more conventional data on length of stay and these can provide the basis for some control functions which will tell one that one is or is not doing well in terms of occupied beds and turnover. Nevertheless, until systems are defined and agreed locally for each individual team and for each hospital population I think we should be cautious about quantitative data. I have been struck by the differences in management that are necessary in different cultural and social circumstances: for example, in Aberdeen we were able, presumably because of a settled community with at that time few working wives, to practise outpatient surgery extensively, so reducing our waiting list,[5] and the same can apparently still go in Edinburgh.[6] In Melbourne for the clientele we served this would have been largely out of the question; in Paddington the same is true for different reasons of age and intercurrent illness. Consequently it would be quite wrong to translate figures generated in one circumstance into norms for another situation. Nevertheless, we urgently need research into what quantitative information we can best make use of and how it can be obtained. The methods used must be precise and simple, for it would be foolish to believe that in Britain the N.H.S. is going to be provided with the lavish computer facilities and secretarial resources which business takes for granted.

The loop in fig. 2 should allow us to avoid one shortcom-

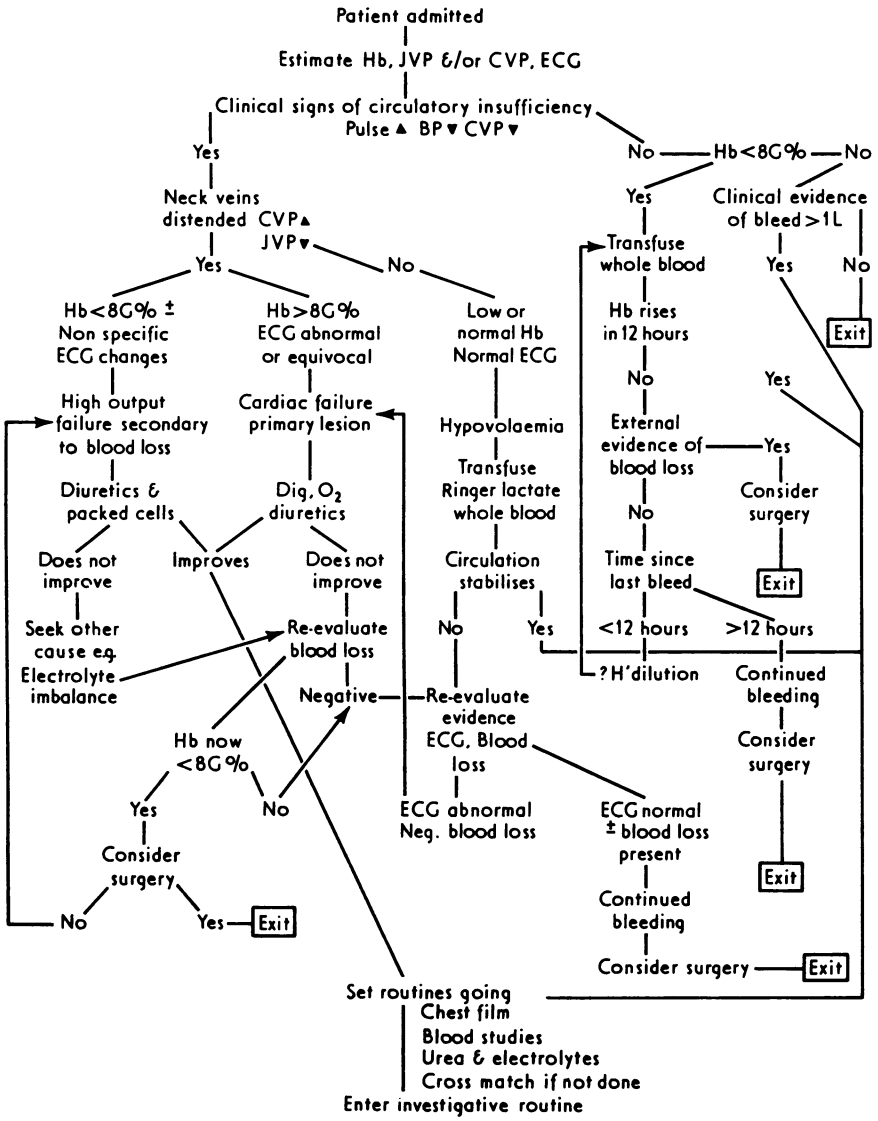

FIG. 1—A systems analysis of the management for the early stages of upper gastrointestinal haemorrhage. The complexity is evident but it is derived from real experience with consecutive patients.

ing of the conventional audit process: all too often the ad hoc identification of an error or an inadequate practice by retrospective review leads to agreement that this will not happen again, but in fact nothing is done and the whole business recurs. Updating flow charts to eliminate repetitive errors is fairly easy but a record must be kept of why something is changed or some of the steps appear superficially mysterious and are then challenged or ignored. The exercise is akin to writing a computer program which can become so complex that no one understands it without having access to an explanatory document but nevertheless it works.

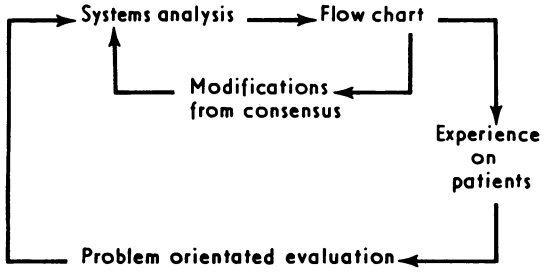

FIG. 2—The loop or circle of problem-oriented audit.

Formal Accounting

The other aspect of surgical audit is the open discussion of such things as deaths and complications in a formal or semi-formal regular session. I enjoy these, particularly when they are on somebody else's patients. Conferences on deaths and complications (syn. "D's and C's") have long been a feature of American university hospitals, and when well conducted by a good chairman they can provide both entertainment and education. Further, they are an essential element in avoiding complacency and the feeling that personal work loads are high and personal results better than those reported in the literature when in fact they are usually smaller and worse. A similarly enjoyable model exists nearer home in the Saturday morning meetings that were begun by the late Sir James Learmonth in Edinburgh and which move round the surgical units. These serve a like function for they have always included some reference to deaths and untoward events plus a complete listing which can be inquired about or challenged by those in the audience. There are I am sure many other centres where similar practices are routine.

Though the advantages of such reviews are manifest, they prove a delicate plant to nurture in such a way as to bring forth edible fruit. Firstly, there is the sense (to which I have already referred) of rugged independence of the surgeon, particularly in the United Kingdom and in those countries that have derived their surgical philosophy from us. This attitude is highly sensitive to the argument *ad hominem*.

The Audit Spectrum

Nature	Frequency	Objective	Possible Results
"Unit review" (syn. chart review)	Weekly, fortnightly, monthly, according to load	"In house" analysis of detailed management (problem and flow chart based)	Free criticism. Exact delineation of detailed errors. Foundation of data bank of unit experience and modification of routines
Divisional review "D's and C's"	Quarterly (for each unit in a division)	Presentation of interesting and critical problems. Formal exposure of unit's work	Dialogue between different services. Exchange of ideas. Histrionics
Regional meeting (Edinburgh style)	Six-monthly or yearly	Some as divisional review. Extension of scope of meeting based on audit or interest	Postgraduate and in-service education

Secondly, an undoubted feeling of guilt exists when something happens to a patient in whom your active intervention by surgery and your craftsmanship have proved inadequate, however tenuous the casual chain between procedure and disaster may be. Thirdly, even the best analysis of deaths and complications tends to develop into a stylized dance, a ritualistic catharsis which is without long-term effects. One learns strategems such as those used by the defeated dog who will roll over on its back and bare its soft underbelly to the snappy jaws of its enemy, so leading the latter to walk away in disgust. For example, many of us will recall a thoracic surgeon who always disarmed criticism this way by admitting that everything was his own fault while at the same time delicately hinting that no one else could have done much better. Finally, there is the uncertainty principle whereby historical reconstruction can never for sure ascribe and apportion responsibility, error, or blame. All these combine to make the full-scale deaths and complications audit in a surgical division as much a study of human behaviour as of the problems of patients.

Nevertheless, many would believe that there is a good case for such open discussion, and I certainly do. Getting them started in one's own organization, unless this is modelled on the authoritarian lines of the Continent or the United States, is a matter of experiment at "firm" or "unit" level, working out ground rules for presentation and then (as happened in Edinburgh and at the Alfred Hospital in Melbourne) extending the process to include others willing to bare their breasts and wring their hands. On the whole the subject of personal performance should be avoided in a large forum of this kind. Criticism outside a unit, however bland and well meant, tends to provoke defence mechanisms more likely to quell educational zeal than to promote it. Larger service or regional meetings are suited for the exploration in depth of one or more problems which point particular lessons and can be discussed with authority and without offence. The table attempts to sketch the spectrum of audit which I think is appropriate. It embraces all the varieties in which I have participated over the last quarter century but attempts to assign objectives to each. Surgical divisions within a Cogwheel organization could do worse than use it as their model.

Personal Plans

Our own plans for the future are based on an amalgam of my past experience and of the table. An informal unit audit without keeping ongoing statistics has run for some years in my own service and in Australia eventually became the basis of a divisional system which combined American and Edinburgh features. Now we are embarking on attempts to make our own unit organization more effective by keeping continuous statistics updated by simple cumulative summation techniques and by having our data in such a form that we can check problem solving against an ever developing background of agreed flow charts. By ruthlessly pruning our discharge summary procedure and adopting some of the problem-oriented approach recently described[7 8] we plan to free our registrars or senior house officers to collect information of this kind on edge-punched cards. As with the development of systems analyses, only by trial and error do we hope to arrive at some understanding of what is worth collecting.

We hope, but cannot be assured, that our ideas can be projected forward into the other surgical services of the hospital so that perhaps quarterly as part of the system of weekly clinical meetings we find half an hour being devoted to audit with the selection of some highlights for discussion. This combination will provide the public with a feeling that we are doing our best, the administrators with at least a framework against which they can judge efficiency, and ourselves with the sense that we are being educative.

Throughout the recent discussions on audit in the United States there has been a considerable reaction over the possible transgression of clinical freedom by political or bureaucratic intervention. This is a real problem made more a matter for concern in that country by a general atmosphere of cynicism about the intentions of government. I am optimistic that we have less to fear in Britain. Nevertheless, we do need to examine what we mean by clinical freedom. We have tended to regard it as something we can take for granted secure in the knowledge that we are, in Abraham Lincoln's words, always doing the best we can and mean to keep on doing it to the end. This may be so, and in a perfect and simple world audit would not be necessary. Unfortunately, neither of these conditions apply and we must be prepared to admit that audit is necessary; that it can be productive; and that finally it is part of our responsibility to look critically at our performance all the time.

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