

pancreatic transplantation prevents recurrence of diabetic nephropathy in kidney grafts.

Careful patient selection is crucial as good results are achieved only in those who, at the time of transplantation, have not developed ischaemic heart disease, cerebrovascular disease, or major peripheral vascular disease.^{4,5} Improvement, or at least stabilisation, of diabetic retinopathy, neuropathy, and vasculopathy is a further benefit of pancreatic transplantation, provided that irreversible ischaemic damage has not already occurred.⁵ The incidence of sudden death among patients with autonomic neuropathy is also reduced.

Advances in surgical practice and the development of effective immunosuppressive agents have contributed largely to the success of simultaneous kidney and pancreas transplantation.^{10,11} The adoption of enteric drainage in preference to bladder drainage of pancreatic exocrine secretion has eliminated bladder and duodenal leaks, urethritis, and chemical cystitis and has reduced the incidence of recurrent acute pancreatitis, a common cause of graft loss.^{10,11} Surgical practice has also evolved from systemic venous drainage of pancreas transplants via the iliac vein to portal venous drainage. This overcomes the problem of near hypoglycaemia experienced by some patients and avoids systemic hyperinsulinaemia, which has been linked to atherogenesis.¹⁰ Recently introduced immunosuppressive agents such as tacrolimus and mycophenolate mofetil have played an important part by substantially reducing graft losses due to rejection.¹⁰ The long term consequences of such immunosuppression, especially in relation to the risks of developing malignancy, remain to be clarified, but concerns about a high rate of infection having an impact on graft and patient survival appear to be overstated.¹²

Improved outcomes in simultaneous kidney and pancreas transplantation in diabetic patients with end

stage renal failure warrant a reappraisal of the cautious approach so far adopted by many transplant centres outside the United States.

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Assessing operative skill

Needs to become more objective

Pressure is mounting for surgeons to demonstrate that they can operate well, maintain their performance, and deliver acceptable results. Improved data collection after the Bristol affair may provide more information on the performance of individual surgeons, but a large number of failures are needed before statistical significance is reached,¹ and, for patients, this will be a case of shutting the stable door after the horse has bolted. We need to be able to measure operative skill, set standards, and assess surgeons before any damage is done.

Although many factors influence surgical outcome, the skill of the surgeon in the operating theatre is very important. A skilfully performed operation is 75% decision making and 25% dexterity²; in some specialties, such as minimally invasive surgery, dexterity becomes more important. Though surgeons have formal examinations in surgical knowledge, there is no such requirement to show operative dexterity. Common sense suggests that technical skill does affect outcome. However, despite variation in operative results

between surgeons,³ it has been impossible to relate outcome to surgical dexterity. A major reason for this is that we have no way of reliably assessing operative skill. This deficiency in assessment needs to be addressed.⁴

Investigators have observed surgeons in the operating theatre and in the skills laboratory using both objective and subjective criteria. Operative speed is one objective measurement of technical skill and can be important. Robert Liston challenged observers, "Now gentlemen, time me" 28 seconds before placing an amputated limb in the sawdust.⁵ More recently, time has been used to quantify skill in junior⁶ and experienced⁷ surgeons. Measuring competence merely by setting time targets for certain procedures is, however, crude and probably unacceptable. A fast surgeon is not necessarily a good surgeon. Counting the number of procedures performed has also been used as a tool to accredit surgeons⁸ but tells us nothing about how well the surgeon operates.

Finding objective criteria for judging good surgical technique is difficult, and most assessments are purely

subjective. Lord Lister was observed to have “none of the dramatic dash and haste of the surgeon of previous times ... he proceeded calmly, deliberately, and carefully.” As he told his students, “Anaesthetics have abolished the need for operative speed and they allow time for careful procedure.”⁵ Junior surgeons have been ranked using global scores based on subjective criteria, but multiple observers are needed to obtain acceptable reliability.⁹ Gathering panels of experts to watch videos or attend theatre may be possible for a research project but is expensive in manpower and time, and this limits its feasibility in real life.

Assessment may be easier in the surgical skills training laboratory than in theatre. Surgeons may behave differently under simulated conditions, but if the tasks are designed carefully to reflect real surgical practice such tests could fulfil the essential requirements of feasibility, reliability, and validity.¹⁰ Abstract tests of manual dexterity have not stood up to validation¹¹ and would appear to be so far removed from the act of surgery as to be unhelpful in selecting potential surgeons. Subjective methods using structured scoring systems have been shown to be reliable.¹² Although multiple observers were used to rate candidates in terms of “economy” and “fluidity” of movement, it was difficult to validate these scores with subjective rankings of residents in the operating theatre.¹³

Recent work has tracked the movement of laparoscopic surgical instruments in the laboratory. Objective measurements of economy of motion and number of movements made are generated by the assessment device. These criteria have been validated for tasks in both reality and virtual reality.^{14 15} Devices that objectively and reliably quantify surgical dexterity could have advantages over traditional subjective evaluation, particularly as a screening tool.

A system that can provide unbiased and objective measurement of surgical precision (rather than just speed) could help training, complement knowledge based examinations, and provide a benchmark for certification. A specific and sensitive test of operative com-

petence could also detect an important problems and might improve surgical outcome. Revealing underperformance early would allow for further training or career guidance towards other less practical specialties. The surgical profession needs a reliable and valid method of assessing the operative skill of its members. A driving test may not be a guarantee against accidents but it makes it less likely that you career off the road. Surgeons, the public, and politicians need reassurance.

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Pleasing both authors and readers

A combination of short print articles and longer electronic ones may help us do this

To succeed, journals need to please both authors and readers. There is, however, a tension between the needs of the two, particularly when the authors are mostly researchers and the readers mostly practitioners. Practitioners like research articles to be short and sweet, whereas researchers want—rightly—to include enough material for critical readers (often other researchers) to be able to appraise the study and if necessary repeat it and also, increasingly, to be able to include it in a systematic review. Journals have struggled with this tension for years, and often the result is that we please nobody. Research among readers consistently shows that research articles are not well read, while many studies have shown that essential data are often missing from

research reports. Now the electronic revolution offers us a chance to please both readers and authors simultaneously.

Today's *BMJ* includes four papers where a short version is published in the paper journal and a longer version in the electronic journal (*eBMJ*) (p 897-914).¹⁻⁴ We even have an acronym for the process: ELPS (electronic long, paper short). This first effort is an experiment, and we are not yet planning to introduce this system for every research article—but we may if both readers and authors are pleased.

Our experiment follows an intense debate within the journal on whether this is a good idea. The arguments in favour are those we've already advanced plus the possibility of using the pages spared for sections that are

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