

TABLE IV—Potential pick-up rates of different possible versions of screening tests

Hypothetical screening standard	Results that would ensue				Referral rate a + b	Sensitivity a	Predictive value a	Accuracy a + d
	Genuine failure (true-positive) (a)	Would fail incorrectly (false-positive) (b)	Would pass incorrectly (false-negative) (c)	Genuine pass (true-negative) (d)				
					a + b + c + d	a + c	a + b	a + b + c + d
Pass full 12 elements of articulation test only	34	23	11	370	13.0%	75.6%	59.7%	92.2%
Pass any 10 elements of articulation test only	21	5	24	388	5.9%	46.7%	80.8%	93.4%
Pass spontaneous sentence only	22	8	23	385	6.9%	48.9%	73.3%	92.9%
Pass either 12 elements of articulation or spontaneous sentence	20	7	25	386	6.2%	44.4%	74.1%	92.7%
Pass either 10 elements of articulation or spontaneous sentence	16	3	29	390	4.3%	35.6%	84.2%	92.7%
Pass both 12 elements of articulation and spontaneous sentence	36	26	9	367	14.2%	80.0%	58.1%	92.0%
Pass both 10 elements of articulation and spontaneous sentence	28	13	17	380	9.4%	62.2%	68.3%	93.2%

We therefore conclude that this trial is effective in enabling doctors of very varied experience to select those children needing speech therapy treatment or observation. In view of the considerable benefit in treating such conditions early the screening test seems an invaluable addition to the school entrant medical examination, introducing a high level of objectivity into a hitherto largely subjective field. We now intend to conduct a further study with particular reference to an analysis of the children selected for observation and the time taken by doctor and speech therapist in their respective assessments.

We wish to acknowledge the part played by Mrs R Eaton, Miss J Wren, and Mrs C Thompson, speech therapists, in designing this

scheme, and the help provided by the clinicians who carried out the pilot study and Miss H Lees who assisted with the data analysis. The views expressed in this report are ours, and do not necessarily represent the position of Cheshire Area Health Authority.

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(Accepted 19 November 1980)

Occasional Review

The quality of life after cardiac surgery

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Abstract

A follow-up study to assess the quality of life after cardiac surgery was begun in 1973. The results, for a total of 383 patients followed up for a maximum of 44 months after surgery, showed an overall improvement in all aspects of life for most patients.

Introduction

In June 1973 a five-year follow-up study of the quality of life after cardiac surgery in adults was started at the Wessex Cardiothoracic Centre in Southampton. This was a joint undertaking between the cardiac surgical unit and the department of community medicine of Southampton University Medical

School, and was designed to give more accurate information on the postoperative careers of our patients than could be expected from routine outpatient follow-up. The purpose of the study was to define the benefit of cardiac surgery to the individual, the family, and the community,¹ and the study was complementary to a costing exercise for open-heart surgery carried out in 1976.²

Patients and methods

Initially 200 patients were included in the study,¹ all aged over 20 and on the waiting list for cardiac surgery. Names were taken as they appeared on the list, in consecutive order, starting in June 1973 and ending when a total of 200 had been reached. During 1975 and 1976 a further 200 patients were enrolled in a similar manner. Five patients died while on the waiting list, and 12 were followed up elsewhere. The remaining 383 patients (201 men, 182 women) were aged from 21 to 74.

Some 302 patients had valve replacements (some with other procedures), 39 coronary artery bypass grafts, 23 repair of septal defects, and 19 had miscellaneous operations. A total of 145 patients have been followed up for 44 months. Follow-up of the remainder has been for shorter periods.

The research assistant interviewed the patients at set intervals, using a standardised questionnaire. The first interview after referral took place in the patient's home. The second interview was on

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admission to hospital for surgery. The remaining interviews—at two months postoperatively, eight months, and yearly thereafter—took place in the research assistant's office and were timed to coincide with outpatient appointments. The questionnaire included questions on occupation, dyspnoea, limitations, physical dependence, leisure activities, and changes of mood.

Results

A life-table analysis, using the method described by Gross and Clark,³ and including operative and early deaths, gives an estimate of 73% survival after four years for patients undergoing valve replacements, and 93% for patients undergoing other procedures (fig 1).

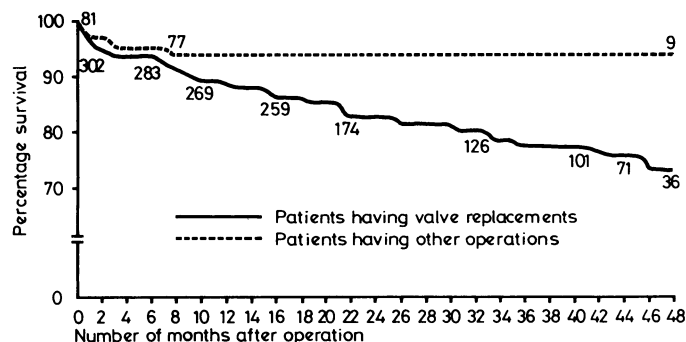


FIG 1—Life-table analysis of patients in cardiac surgery follow-up study. Figures on graph are numbers of patients who have been followed up until that time.

Of 128 men of employment age (under 65 during the period of the study) who survived for at least a year postoperatively, half were back at work within 15 weeks of surgery. It has been suggested⁴ that, "Work is a habit which, if allowed to lapse, is replaced by the habit of non-work." To test this hypothesis, it was decided to divide these 128 men into three groups, depending on the time they had been off work preoperatively, and look at the "return to work pattern" of each group separately (fig 2).

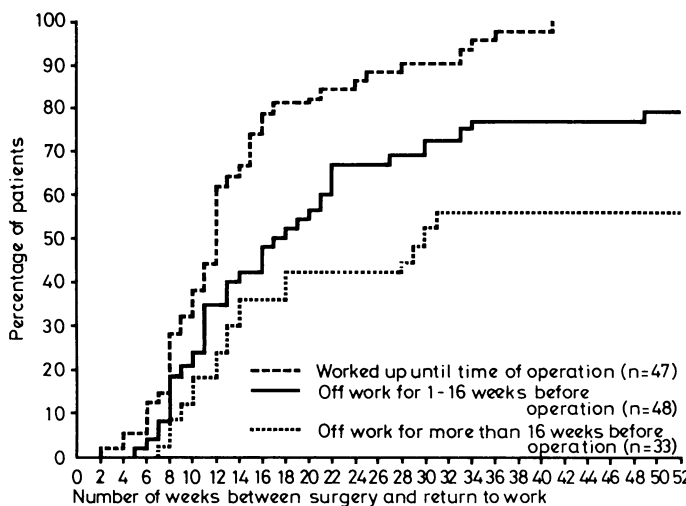


FIG 2—Cumulative percentage of men returning to work after operation.

All of the 47 men who worked up until the time of operation were back at work within 41 weeks after surgery (40 (85%) to the same job). Of the 48 men who were off work for 1-16 weeks preoperatively, 36 had returned to work by this time (26 (72%) to the same job). Of the remaining 33 men who were off work for more than 16 weeks before operation, only 18 were back at work (9 (50%) to the same job). Changes in other aspects of life are illustrated in fig 3 (men) and fig 4 (women).

After two months less than 10% of the men were so handicapped that they could not leave their houses unaccompanied. This figure compares with 34% for women, who on average took longer to recover. Women were more physically dependent than men on their families, both preoperatively and in the early postoperative months. Only 27% could do their housework unaided before operation. This figure rose to 60% at eight months and to 76% at 44 months. The difference between men and women was probably related to the predominance of mitral valve disease among women, with the longer period of preoperative disability. The difference became less with time, and at 44 months a larger percentage of women (64%) than of men (58%) stated that they had no limitations of activity at all. This compared with an equivalent preoperative figure, for both sexes, of

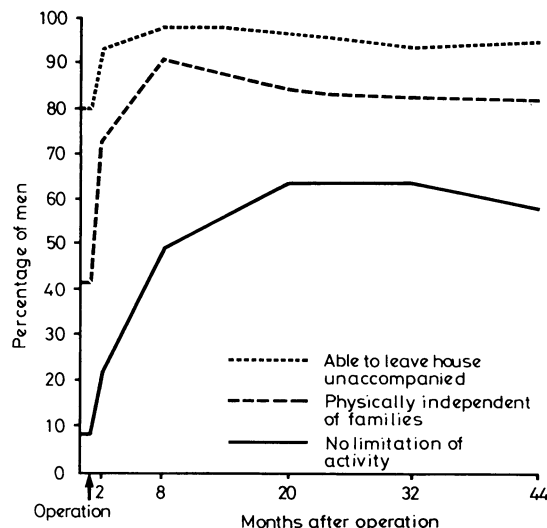


FIG 3—Changes in aspects of life in men.

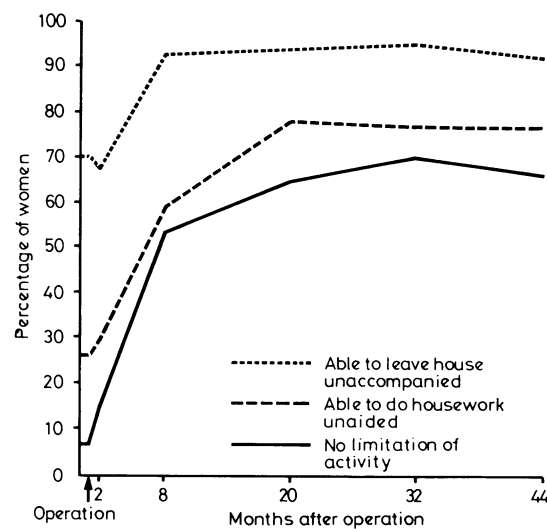


FIG 4—Changes in aspects of life in women.

8%. Of the 56 people who still had some limitations at 44 months, 23 said that the limiting factor was dyspnoea, nine that it was fatigue, eight had chest pain, and two were afraid of exertion. The remainder gave various reasons unconnected with their heart condition.

Leisure activities were another indicator of improvement. Before operation there was an increase in the more sedentary pursuits and, after operation, in the more energetic occupations such as walking, gardening, home decorating, squash, and other sports.

Of the 145 people followed up for the longest period (44 months), 85 said that their mood had improved since operation, 57 that their sex life was better, and 120 described a greater sense of well being.

Discussion

When it is remembered that most patients in this study had been severely disabled before operation, often for many years, the hospital mortality of 3% is low. A 73% four-year survival for our valve replacement group (fig 1) compares favourably with the results of major surgery for other varieties of chronic disabling and life-threatening disease.

The return to work pattern for men of employment age was found to be identical in the two 200-patient samples in the study, with half back at work in just over three months and 80% by the end of a year after operation. The longer the individual had been off work preoperatively, the longer it took to return to work. Between 50% and 85% returned to their old job, depending on how long they had been off work before operation. Although the numbers were smaller, the favourable trend for full-time and part-time employment was also seen for the women in the series.

The relief of physical handicap in everyday terms is shown in figs 3 and 4, while the improved use of leisure time and, for the older patients, the ability to enjoy a useful and active retirement were features that were strikingly apparent.

Provision of cardiac surgery is generally considered to be expensive, but lack of information makes it difficult to compare it with the cost of other specialist activities. The technicalities of costing are awesome and standard criteria for such exercises

completely lacking. In a clinical, as opposed to an economic, setting our follow-up study establishes the degree of benefit that may be expected after cardiac surgery, both for the individual and for the community in which he lives and works.

We suggest that, on the evidence presented, the results of cardiac surgery justify the expenditure required to maintain the service.

This study was supported by the British Heart Foundation. We are grateful to the general practitioners and consultant physicians in the Wessex region for agreeing to their patients being included in the survey.

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(Accepted 26 November 1980)

MATERIA NON MEDICA

Forget Smirnof, discover your library catalogue

I have recently spent rather a lot of time ferreting around in university library catalogues checking their holdings of early British periodicals of medicine, working from the list compiled by the revered, but, I'm forced to conclude, somewhat imaginative W R Lefanu.

His list itself is quite fun. 1686 saw Robert Midgley's launch of *Hippocrates Ridens, or joco-serious reflections on the impudence and mischiefs of quacks and illiterate pretenders to physick* (London). Sadly, after editions on 26 April and 3, 10, and 17 May, it folded. The presumably rather more high brow *Man. A paper for the ennobling of the species* (London) lasted the entire year of 1755. R Gosling's helpful translation (London, 1793-4) of the *Journal de Chirurgie par P J Desault* (Paris 1791-2) should be in every casualty officer's pocket—it contains some very clear accounts of how they coped with various injuries sustained during such activities as the storming of the Bastille. The manoeuvres to pack the nasopharynx could go straight into a textbook in ENT: a hollow bougie in the oesophagus allowed nourishment while it healed, and follow-up at about a year was quite satisfactory. I think they were probably wise to ask neither where the bullet ended up, nor why the fool had actually shot himself in the first place.

The surgeons of the Royal Hospital at Plymouth, led by the redoubtable Thomas Beddoes (*Reports*, Bristol and London, 1797) seem to have been much enamoured of "The effects of the nitrous acid in the venereal disease," while D Monro (London and Edinburgh, 1778) was busy editing a rather encyclopaedic journal, *The letters and essays on the smallpox and inoculation, the measles, the dry bellyache, the yellow, and remitting, and intermitting fevers of the West Indies. To which are added thoughts on the hydrocephalus internus, and observations on hydatides in the heads of cattle*.

1 February 1799 saw a sole, lonely edition of a *British Medical Journal*, while the *Lancet* started its run in 1823. The *Midland Medical and Surgical Reporter*, and *Topographical and Statistical Journal*, published in Worcester between 1828 and 1832, which in 1833 became the *Transactions of the Provincial Medical and Surgical Society* was presumably the forerunner of the *BMJ* we know. It seems a pity that we cannot still take out subscriptions to the *Selections of interesting cases in surgery, medicine, midwifery etc. By a society of practical physicians etc* (London 1811), but I wonder whether we should be glad that we can avoid *The Family Oracle of Health, Economy, Medicine and Good Living* (London 1823-7)? What pleasures would it have left one?

A journal published in Brockville and Toronto in 1849 of relevance

to contemporary controversy should appeal to listeners to the Reith lectures. Unfortunately *The Unfettered Canadian. Medical Reform, asserting the rights and duty of every man to investigate and choose for himself in relation to the philosophy and means of health* is rather rare in this country.

But the real amusement comes in the titles one passes in the catalogue. There's a certain tension in the *Weekly report of the Volcano Observatory, Honolulu*, is there not? And what did the *Progressive Fanciers of Derby fancy*? I imagine the *Proceedings of the Pre-historical Society of East Anglia* being circulated on stone tablets. Flints from Grimes Graves, perhaps? I leave you to visualise the oil spots on *The Glasgow Mechanics Magazine, and Annals of Philosophy*.—VIRGINIA ALUN JONES (research assistant, Cambridge).

Clouded agarics

Have you heard of the clouded agaric? I've just eaten one and survived.

I had not met one before, but happening to look down from an upper window I perceived—partly hidden by the fallen leaves of a silver beech in a wooded shrubbery close by—a small tidy community of what looked like fungi of some sort. Closer inspection revealed seven neat flat brownish mushrooms tapering to white borders, the largest measuring some 15 cm (6 inches) across and with white well-defined gills, though with only a slight odour.

Recourse to my old scrapbook disclosed a confirmatory picture in colour of *Clitocybe nebularis* (clouded agaric), with the caption, "Among the most excellent of our edible mushrooms, and the delight of the gourmet, clouded agaric is characterised by a thick cup which tapers to a thinner edge at the periphery. Possessing a smooth fibrous stem usually removed before cooking, *Nebularis* has a strong odour and a peppery taste. September onwards is the best time to collect this succulent specimen, which will be found hidden beneath the falling autumn leaves. From forest to palate is but a short step particularly when cooked in butter accompanied by a white wine sauce. A tantalising yet tangible addition to the menu."

Reverently bringing them indoors, after slicing off the stems, they yielded readily to skinning, which additionally seemed to vouch for edibility. Well fried in butter with a little bacon fat for some seven minutes, placed on buttered toast, they were then sampled with the salivary glands active in anticipatory delight. Verdict: on a first trial, and compared with the taste of the usual field mushroom, we thought they were mild but of a pleasant and distinctly new flavour, which no doubt will be better appreciated as one becomes a gourmet—if I can manage to find some more.—JOHN ROBERTS (retired otolaryngologist, Bangor, Gwynedd).