

Michael D. A. Vickers

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Mike Vickers has publications spanning the years 1963 to 2007. His interests were mainly pharmacological with many papers examining the management of postoperative pain. The determination of blood volume, the management of shock and various papers associated with the operating theatre environment (pollution and safety) were also



timely. Mike Vickers was also a medical politician; involved with the Anaesthetic Association of Great Britain and Ireland and had views on manpower subjects both in the UK and Europe.

He started out a First Assistant in Newcastle upon Tyne (1963-5) then became a lecturer at the Royal Postgraduate Medical School. He was the Director of the Clinical Investigation Unit at Dudley Road Hospital, Birmingham (1968-1976) then taking the chair in Cardiff.ⁱⁱ

Pharmacological interests:

The first time Mike Vickers' name appears when searching the literature is in 1963. It is either a publication on the mismanagement of suxamethonium apnoea

ⁱ Portrait by David Griffiths, courtesy of Professor Judith Hall, Department of Anaesthetics, Intensive Care and Pain Medicine, Cardiff University. (the picture has been cropped).

ⁱⁱ Development of academic anaesthesia in the UK up to the end of 1998
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[1] or a comment at a meeting of the Royal Society of Medicine on methohexitone [2]; the work must have been done whilst at the Middlesex Hospital.

The comment about methohexitone was concerning its epileptogenic properties, amongst others. A comment, “the prolongation of recovery time after increasing the dose [*of methohexitone*] was not so marked as with thiopentone” is of interest in light of future debates about intermittent methohexitone for sedation for dentistry.

Of the four publications about cholinesterase the first was based on a case report (“misleading evidence was obtained from studies of neuromuscular conduction” and it was suggested that “if facilities for testing neuromuscular conduction are available the urge to administer an anticholinesterase drug must be restrained until post-tetanic facilitation is markedly present.”) [1], the second a review [3] and the other two, in 1968, were letters concerning the setting up of a Cholinesterase Research Unit[4, 5]. The initial experiences from this unit are documented in 1970[6]. Sixteen families had been studied.

In 1970 he collaborated with Tom Healy, John Robinson and others into the sedative effects of diazepam and its suitability for dental sedation, see Healy for details on this work... patients were assessed during routine dental treatment under local anaesthesia... overall the technique proved of benefit and patients were safe to leave accompanied by an adult within one hour[7-9]. This was followed by another paper in 1972 on the subject of ‘biochemical evidence of anxiety in dental [phobic] patients’[10]. They detected a rise in catecholamine production but this occurred only with the actual event rather than anticipation of it. Diazepam did not reduce the level of circulating adrenaline or the heart rate to normal. “Diazepam had little effect on the adrenaline level in the normal volunteers”.

There is a large gap between this work and further work on sedation using saccadic eye movements as a measurement tool. Saccadic eye movements are rapid, simultaneous movements of both eyes in the same direction. In 1991 four papers were published, three on saccadic eye movements with cyclopropane, halothane, nitrous oxide, isoflurane and propofol [11-13] and one paper on the arterial-venous

concentrations occurring during propofol infusions[14], there was a second one on this topic in 1996[15].

The null hypothesis for the saccadic-eye-movement work was that there would be no difference between equi-MAC concentrations of the various agents. Nitrous oxide was indistinguishable from air at equi-MAC concentrations that produced mark changes with isoflurane. Previous workers, using higher concentrations, had shown effectsⁱⁱⁱ

The work with propofol was an attempt to show whether venous sampling could be used instead of the potentially more hazardous arterial puncture. At the low concentrations studied, even with a better arterialisation technique (electric blanket around the arm), the use of venous samples were still considered of limited predictive value in an individual subject. As was stated – there was a high correlation between samples but low predictivity.

A variety of papers were written between the years 1966 and 1987 on pharmacological topics – adrenergic drugs, gamma hydroxybutyric acid, the effect of age on pethidine plasma concentrations, and the effect of various premedicants [16-22]. However, there is an interesting body of work on the management of postoperative pain [23-35].

Postoperative Pain

The first paper (1979), with Chakravarty as the lead author, compared burprenorphine and pethidine given intravenously on demand, a precursor to the ubiquitous patient controlled analgesia of today[23]^{iv}. The use of the Cardiff

ⁱⁱⁱ Magnusson M, Padoan S, Ornhagen H. Evaluation of smooth pursuit and voluntary saccades in nitrous oxide induced narcosis. *Aviation, Space and Environmental Medicine* 1989; 60: 977-982

^{iv} Forrest, W H, Smethurst, P W R, and Kienitz, M E, *Anesthesiology*, 1970, 33, 363; Sechzer, P H, *Anesthesia and Analgesia ... Current Researches*, 1971, 50, 1 and Keeri-Szanto, M, *Canadian Anaesthetists' Society Journal*, 1971, 18, 581.

Palliator was first described in 1976^v. Buprenorphine was shown to produce a good quality of analgesia but it had similar side effects to morphine. Individual consumption varied widely; this was put down to the variable amount of pain perceived by the patient which was thought to be “correlated with personality” and different sensitivity to the drug.

The nefopam study[24] was unable to differentiate between the analgesic effect of nefopam and morphine but nefopam was shown to have no obvious cardiorespiratory side effects; sweating with nefopam was a problem. Nalbuphine[31], meptazinol[26] and pentazocine[28] were all studied in various combinations with morphine, pethidine and buprenorphine. Nalbuphine seemed to less effective when the patients moved, meptazinol was associated with more nausea and vomiting but pentazocine was quite comparable to buprenorphine. None of these drugs are now in common use. Later on (1992-95) tramadol was studied [32, 33, 35], this drug is in use.

Two letters and one paper on the mechanics and concept and assessment of patient controlled analgesia were produced from this department between 1979 and 1983[25, 29, 30]; the first letter is a description of the way the need for pain relief decreases with time and that how the only person who knows how much pain relief is required is the patient. The other letter is a criticism of another comparison of analgesics^{vi}, between i.m. morphine, sublingual buprenorphine and self-administered pethidine – the authors felt that the nurse administered i.m. morphine dosage was unusually high and that they were acting as an “expensive, manual ‘ondemand’ system”. These authors had shown no difference between the self-administered and staff-administered methods.

In '83 Slattery did an open comparison of staff administered vs. patient administered pain relief, patients who self-administered their analgesia had less

^v Evans, J M, et al, *Anaesthesia*, 1976, 31, 847 and Evans, J M, et al, *Lancet*, 1976, 1, 17.

^{vi} Ellis, R., Haines, D., Shah, R., Cotton, B. R., and Smith, G. (1982). Pain relief after abdominal surgery. *Br.J. Anaesth.*,54, 421.

pain but received more analgesic than the staff-administered group. Confounding factors suggested that a blinded study should be performed.

Patient controlled analgesia is a mainstay of postoperative pain control and this department had a major role in its acceptance.

Blood volume

Between 1968 and 1971 there was a flurry of papers on blood volume determination and the value of intravenous fluids for resuscitation.

The first [36] was on the use of a single tracer (radioactive iodine) and the Pitman Blood Volume computer. It was to highlight the possible methodological errors and the associated danger that “the ‘answer’ on the dial may be given undue credence”. The potential errors included the random nature of isotope decay, the number of counts, the distance of the measuring device and shielding from the sample, mains voltage, the timer and the quality of the supplied isotope and others, including patient factors. The discussion of the case for the use of blood volume estimation using this technique ranged around the topic of physician understanding of the results of the analysis and “whether the value of the information is commensurate with the cost of obtaining it, particularly when compared with the relative ease and low cost of central venous pressure measurement.” It was agreed that certain clinical states made central venous pressure unreliable, such as shock and renal and heart failure and therefore it might have a use. This paper was followed in 1969 by a method using two tracers, red cell labelled with Cr and radioiodinated human serum albumin[37]. This technique was shown to provide extremely accurate results for the determination of red cell and plasma volume, and supported other work carried out using this technique.

Using the dual tracer technique three papers (I, II and III) were published on the value of Macrodex (dextran with mean molecular weight of 70,000) for the replacement of blood loss/maintenance of blood volume [38-40]. In study I 22 patients undergoing major surgery with expected blood loss were recruited, half received blood replacement and half Macrodex, six dropped out which left only 16.

There was no significant difference between the two groups; for significance with 16 patients the differences would have had to be great to 'show-up', and it was admitted that the anaesthetists had some bias within the management of the two groups and that there was a tendency to undertransfuse.

Study II examined the changes in the peripheral haematocrit and the "whole body/large vessel" haematocrit ratio. The ratio between the two has been termed the Fcells ratio. The difference between the two values is due the microcirculation having more plasma and fewer cells than the whole blood volume taken as a unit. There was a fall in the Fcells ratio in patients whose volume was replaced with stored blood and no change in patients infused with Macrodex. This increase in peripheral haematocrit increases viscosity and may be deleterious to the circulation in the postoperative period. The third paper followed the effect of transfusion/Macrodex infusion on the postoperative haematocrit, comparing the immediate postoperative status with the state two hours later. Blood transfusion resulted in an increase (10%) in the measured red cell volume over this two hour period and that was without any additional transfusion. This was not seen with Macrodex. It was concluded that the use of Macrodex for fluid replacement had a beneficial circulatory effect unrelated to blood volume and it was not known whether this was due to differences in haematocrit or viscosity. This may have had a significant effect on practice within the UK.

A paper in the Postgraduate Medical Journal [41] was an overview of the use of isotope studies in the management of patients and the limitations, particularly in shock states; a minor review.

The final article [42] (very short) was on the problems associated with measurement of the fluid spaces. It was stated that moderate blood loss causes a shift of interstitial fluid into the vascular compartment and sequestration of some red cells. Interstitial pressure falls following haemorrhage and this is not reversed by transfusion of blood alone, Ringer-lactate helps. Dextrans do not reverse this fall but survival rates improve.

Safety

Theatre Explosions

Three papers published from 1070-173 deal with hazards in the operating theatre, particularly fire and explosions, a fourth in 1978 [43-46]. Between 1947 and 1954 thirty-six explosions resulted in three deaths; with the implementation of recommendations from a working party there were no explosions in theatres in the following fourteen years. It was thought that the recommendations were excessively cautious, and expensive, and so some experiments were carried out to determine whether explosive levels of ether were actually achieved in the operating theatre. This is of historical interest only as the use of explosive agents (including cyclopropane) ceased in the late 1970s. The bottom-line was that money was being spent on the grounds of alleged patient safety when it could be spent on better equipment or more staff.

The final paper was written after the advent of laparoscopic surgery and the discussion includes the scenario where hydrogen might diffuse across the bowel wall and create an explosive mixture in the gas filled peritoneal cavity. The arguments put forward negate this possibility.

Equipment

A miscellaneous collection of papers dealt with a variety of equipment related topics; dry gas meters, scavenging, anaesthetic records, face mask, ventilator malfunction and two of interest – pulse-oximetry and colour coding of drug syringes [47-53]. The pulse-oximetry article is an editorial in the British Journal of Anaesthesia at a time when pulse-oximetry was being introduced into the UK. It outlines the mechanics of the measurement of the haemoglobin saturation and describes the limitations. At this time (1989) progress was rapid and we would not now consider giving an anaesthetic without one. Twenty years later the World Health Organisation (2009) is working towards making pulse-oximeters available for use worldwide in developing countries.

As far as colour coding is concerned, the letter in Anaesthesia represents the frustration at getting some sort of consensus for colour coding nationally (in the UK) let alone trying to get an international standard. Colour coding is now commonplace, the next step is the use of bar-codes to enhance safety to enable the recognition of the drug before it is administered.

Miscellaneous

Other interests over time included an examination (with EA Pask in Newcastle) into the safety of using and teaching the use of less than 20% oxygen in the anaesthetic mixture (there was a technique that used 100% nitrous oxide for induction of babies!), it was shown using a modified anaesthetic delivery system which 'blinded' the study that there were no real advantages... this was in 1966[54]. A letter on anaesthesia and driving was printed in the B.J.A. and the Lancet[55, 56] and in 1983 an editorial on "The pursuit of quality in anaesthesia" in the BMJ[57]. This is an interesting insight into the early move to critical incident reporting and care of the sick doctor. It touched on the use of psychological testing for the selection of anaesthetists, on administration within departments and postoperative care.

Pollution at this time was also a favourite topic and there were many devices devised for the extraction or absorption of exhaled anaesthetics [58, 59].

He was involved in three articles on how to do research. "1 - Before you start", "2 - Writing the protocol" and "4 - Getting the work done"; no. 3 was written by WW Mapleson [60-62]. He was also active in getting clinical audit underway, highlighting citation errors and pointing out alleged bias publishing [63-65].

Medical Politics

Mike Vickers was active in the medico-political-manpower-health

The articles on manpower started in 1968, and continued through 1981/82, to 1996 [66-71]. He was also interested in the selection process for anaesthesia [72-78],

particularly psychological testing and structured interviews. As late as 1999 he was still very concerned that “We, [anaesthetists]....airly [sic] dismiss such tests as ‘Women’s magazine psychology’, all the more arrogant since we make no attempt to counter this by becoming expert in selection by interview.” He was making the point that the airline industry has a greater interest in weeding out accident prone personnel.

He was intimately involved in changes in anaesthesia at home in the UK [79-82] as well as in Europe, particularly European training and the European Academy [83-86].

The following references have not been studied [87-102]

References

1. Vickers, M., *The mismanagement of suxamethonium apnoea*. British Journal of Anaesthesia, 1963. **35**: p. 260-8.
2. Green, R.A., et al., *Methohexitone*. Proceedings of the Royal Society of Medicine, 1963. **56**: p. 373-8.
3. Vickers, M.D., *The Cholinesterases and Their Significance to the Anaesthetist Using Muscle Relaxants*. British Journal of Anaesthesia, 1963. **35**: p. 528-34.
4. Whittaker, M. and M.D. Vickers, *Suxamethonium apnoea*. British Medical Journal, 1968. **4**(5625): p. 254.
5. Whittaker, M. and M. Vickers, *Suxamethonium apnoea*. British Journal of Anaesthesia, 1968. **40**(5): p. 393.
6. Whittaker, M. and M.D. Vickers, *Initial experiences with the Cholinesterase Research Unit*. British Journal of Anaesthesia, 1970. **42**(11): p. 1016-20.
7. Healy, T.E., et al., *Interdisciplinary study of diazepam sedation for outpatient dentistry*. British Medical Journal, 1970. **3**(5713): p. 13-7.
8. Healy, T.E., J.S. Robinson, and M.D. Vickers, *Physiological responses to intravenous diazepam as a sedative for conservative dentistry*. British Medical Journal, 1970. **3**(5713): p. 10-3.
9. Healy, T.E. and M.D. Vickers, *Laryngeal competence under diazepam sedation*. Proceedings of the Royal Society of Medicine, 1971. **64**(1): p. 85-6.
10. Edmondson, H.D., B. Roscoe, and M.D. Vickers, *Biochemical evidence of anxiety in dental patients*. British Medical Journal, 1972. **4**(5831): p. 7-9.
11. Gao, F., W.W. Mapleson, and M.D. Vickers, *Effect of sub-anaesthetic infusions*

- of propofol on peak velocity of saccadic eye movements.* European Journal of Anaesthesiology, 1991. **8**(4): p. 267-76.
12. Gao, F., R.W. Marshall, and M.D. Vickers, *Effect of low concentrations of nitrous oxide and isoflurane on peak velocity of saccadic eye movements.* British Journal of Anaesthesia, 1991. **66**(2): p. 179-84.
 13. Yoshizumi, J., R.W. Marshall, and M.D. Vickers, *Effects of low concentrations of cyclopropane and halothane on peak velocity of saccadic eye movements.* British Journal of Anaesthesia, 1991. **67**(6): p. 735-40.
 14. Okell, R.W., W.W. Mapleson, and M.D. Vickers, *Comparison of arterial and arterialized venous concentrations of propofol during infusion of propofol.* British Journal of Anaesthesia, 1991. **67**(3): p. 285-8.
 15. Johnston, K.R., M.D. Vickers, and W.W. Mapleson, *Comparison of arterialized venous with arterial blood propofol concentrations during sub-anaesthetic infusions in volunteers.* British Journal of Anaesthesia, 1996. **76**(3): p. 401-4.
 16. Vickers, M.D., *Adrenergic drugs and their antagonists in anaesthesia.* British Journal of Anaesthesia, 1966. **38**(9): p. 728-38.
 17. Vickers, M.D., *Gamma hydroxybutyric acid. Clinical pharmacology and current status.* Proceedings of the Royal Society of Medicine, 1968. **61**(8): p. 821-4.
 18. Vickers, M.D., *Gammahydroxybutyric acid.* International Anesthesiology Clinics, 1969. **7**(1): p. 75-89.
 19. Chan, K., et al., *Proceedings: The effect of age on plasma pethidine concentrations.* Clinical Science & Molecular Medicine, 1974. **47**(5): p. 23P.
 20. Shah, M., M. Rosen, and M.D. Vickers, *Effect of premedication with diazepam, morphine or nalbuphine on gastrointestinal motility after surgery.* British Journal of Anaesthesia, 1984. **56**(11): p. 1235-8.
 21. Slowey, H.F., et al., *Effect of premedication with controlled-release oral morphine on postoperative pain. A comparison with intramuscular morphine.* Anaesthesia, 1985. **40**(5): p. 438-40.
 22. Thomas, D.L., et al., *Comparison of temazepam elixir and trimeprazine syrup as oral premedication in children undergoing tonsillectomy and associated procedures.* British Journal of Anaesthesia, 1987. **59**(4): p. 424-30.
 23. Chakravarty, K., et al., *Comparison of buprenorphine and pethidine given intravenously on demand to relieve postoperative pain.* British Medical Journal, 1979. **2**(6195): p. 895-7.
 24. Phillips, G. and M.D. Vickers, *Nefopam in postoperative pain.* British Journal of Anaesthesia, 1979. **51**(10): p. 961-5.
 25. Rosen, M. and M.D. Vickers, *Relief of postoperative pain.* British Medical Journal, 1979. **1**(6173): p. 1278-9.
 26. Slattery, P.J., et al., *Comparison of meptazinol and pethidine given i.v. on demand in the management of postoperative pain.* British Journal of Anaesthesia, 1981. **53**(9): p. 927-31.
 27. Harmer, M., et al., *Intramuscular on demand analgesia: double blind controlled trial of pethidine, buprenorphine, morphine, and meptazinol.* British Medical Journal Clinical Research Ed., 1983. **286**(6366): p. 680-2.
 28. Harmer, M., et al., *Comparison between buprenorphine and pentazocine given*

- i.v. on demand in the control of postoperative pain.* British Journal of Anaesthesia, 1983. **55**(1): p. 21-5.
29. Rosen, M., P. Slattery, and M.D. Vickers, *Cardiff Palliator*. British Journal of Anaesthesia, 1983. **55**(9): p. 922.
 30. Slattery, P.J., et al., *An open comparison between routine and self-administered postoperative pain relief.* Annals of the Royal College of Surgeons of England, 1983. **65**(1): p. 18-9.
 31. Bahar, M., M. Rosen, and M.D. Vickers, *Self-administered nalbuphine, morphine and pethidine. Comparison, by intravenous route, following cholecystectomy.* Anaesthesia, 1985. **40**(6): p. 529-32.
 32. Vickers, M.D., et al., *Tramadol: pain relief by an opioid without depression of respiration.* Anaesthesia, 1992. **47**(4): p. 291-6.
 33. Besson, J.M. and M.D. Vickers, *Tramadol analgesia. Synergy in research and therapy.* Drugs, 1994. **47 Suppl 1**: p. 1-2.
 34. Gao, F., et al., *Comparison of bupivacaine plus buprenorphine with bupivacaine alone by caudal blockade for post-operative pain relief after hip and knee arthroplasty.* European Journal of Anaesthesiology, 1995. **12**(5): p. 471-6.
 35. Vickers, M.D. and D. Paravicini, *Comparison of tramadol with morphine for post-operative pain following abdominal surgery.[see comment].* European Journal of Anaesthesiology, 1995. **12**(3): p. 265-71.
 36. Heath, M.L. and M.D. Vickers, *An examination of single-tracer, semi-automated blood volume methodology.* Anaesthesia, 1968. **23**(4): p. 659-69.
 37. Heath, M.L., M.D. Vickers, and D. Dunlap, *A simple method for simultaneous determination of plasma and red cell volume.* British Journal of Anaesthesia, 1969. **41**(8): p. 669-76.
 38. Vickers, M.D., M.L. Heath, and D. Dunlap, *A comparison of Macrodex and stored blood as replacement for blood loss during planned surgery. I. Blood volume maintenance.* British Journal of Anaesthesia, 1969. **41**(8): p. 677-80.
 39. Heath, M.L., M.D. Vickers, and D. Dunlap, *A comparison of Macrodex and stored blood as replacement for blood loss during planned surgery. II. Changes in peripheral haematocrit and whole body-large vessel haematocrit ratio.* British Journal of Anaesthesia, 1969. **41**(10): p. 816-20.
 40. Heath, M.L., M.D. Vickers, and D. Dunlap, *A comparison of Macrodex and stored blood as replacement for blood loss during planned surgery. 3. Red cell sequestration.* British Journal of Anaesthesia, 1969. **41**(11): p. 939-41.
 41. Vickers, M.D., *The use and limitations of isotope studies in clinical shock.* Postgraduate Medical Journal, 1969. **45**(526): p. 503-5.
 42. Vickers, M.D., *Anaesthesia and body fluid compartments.* Annals of the Royal College of Surgeons of England, 1971. **48**(2): p. 76.
 43. Vickers, M.D., *Explosion hazards in anaesthesia.* Anaesthesia, 1970. **25**(4): p. 482-92.
 44. Vickers, M.D., *Explosion hazards.* Anaesthesia, 1970. **25**(1): p. 130-1.
 45. Vickers, M.D., *Hazards in the operating theatre. Fires and explosions.* Annals of the Royal College of Surgeons of England, 1973. **52**(6): p. 354-7.
 46. Vickers, M.D., *Fire and explosion hazards in operating theatres.* British Journal

- of Anaesthesia, 1978. **50**(7): p. 659-64.
47. Adams, A.P., et al., *Dry displacement gas meters*. British Journal of Anaesthesia, 1967. **39**(2): p. 174-83.
 48. Vaughan, R.S., et al., *The Cardiff Aldavac anaesthetic-scavenging system*. Anaesthesia, 1977. **32**(4): p. 339-42.
 49. Lunn, J.N. and M.D. Vickers, *A new anaesthetic record*. Anaesthesia, 1982. **37**(6): p. 651-7.
 50. Shah, M., P. Crompton, and M.D. Vickers, *The efficacy of face masks*. Annals of the Royal College of Surgeons of England, 1983. **65**(6): p. 380-1.
 51. Vickers, M.D., J. Mecklenburgh, and D.J. Bowen, *Ventilator malfunction*. Anaesthesia, 1983. **38**(11): p. 1107-8.
 52. Kidd, J.F. and M.D. Vickers, *Pulse oximeters: essential monitors with limitations*. British Journal of Anaesthesia, 1989. **62**(4): p. 355-7.
 53. Vickers, M.D., *Colour coding for syringe drug labels.[comment]*. Anaesthesia, 2002. **57**(12): p. 1231.
 54. Vickers, M.D. and E.A. Pask, *Less than 20 per cent oxygen or not?* Anaesthesia, 1966. **21**(2): p. 261-7.
 55. Baskett, P.J. and M.D. Vickers, *Fitness to drive after anaesthesia*. British Journal of Anaesthesia, 1979. **51**(8): p. 810.
 56. Baskett, P.J. and M.D. Vickers, *General anaesthesia and driving*. Lancet, 1979. **1**(8114): p. 490.
 57. Vickers, M.D., *The pursuit of quality in anaesthesia*. British Medical Journal Clinical Research Ed., 1983. **287**(6391): p. 509-10.
 58. Rosen, M. and M.D. Vickers, *Exposure of midwives to nitrous oxide*. British Medical Journal Clinical Research Ed., 1986. **293**(6557): p. 1308.
 59. Vickers, M.D., *Pollution of operating theatre atmosphere*. 1976. Health Estate, 2007. **61**(6): p. 27-9.
 60. Mapleson, W.W. and M.D. Vickers, *Organising clinical research: 4. Getting the work done*. British Journal of Clinical Practice, 1989. **43**(4): p. 133-9.
 61. Vickers, M.D., *Organising clinical research: 2. Writing the protocol*. British Journal of Clinical Practice, 1989. **43**(2): p. 49-51.
 62. Vickers, M.D. and S.J. Pritchard, *Organising clinical research: 1. Before you start*. British Journal of Clinical Practice, 1989. **43**(1): p. 5-10.
 63. Vickers, M.D., *Anaesthetists' role in introducing audit into surgery*. BMJ, 1991. **303**(6795): p. 189-90.
 64. Vickers, M.D., *Citation errors--there is still much to be done*. Canadian Journal of Anaesthesia, 1995. **42**(11): p. 1063.
 65. Vickers, M.D., *Monographs in the Drug and Therapeutics Bulletin. Seem to be biased*. BMJ, 1995. **310**(6980): p. 663.
 66. Vickers, M.D., *Work load of a clinical department*. Anaesthesia, 1968. **23**(3): p. 357-63.
 67. Vickers, M.D., *Medical manpower and the career structure: a new approach*. British Medical Journal Clinical Research Ed., 1981. **282**(6279): p. 1854-7.
 68. Vickers, M.D., *Anaesthetic manpower in the future in the UK*. Anaesthesia, 1982. **37**(9): p. 954-7.

69. Zorab, J.S. and M.D. Vickers, *Anaesthesiological manpower in Europe.[see comment][comment]*. European Journal of Anaesthesiology, 1996. **13**(4): p. 314-5.
70. Vickers, M.D., *Non-physician anaesthetists: can we agree on their role in Europe?[see comment]*. European Journal of Anaesthesiology, 2000. **17**(9): p. 537-41.
71. Vickers, M.D., *Anaesthetic team and the role of nurses--European perspective*. Best Practice & Research, 2002. **Clinical Anaesthesiology**. **16**(3): p. 409-21.
72. Vickers, M.D., *Letter: Linguistic tests for migrant doctors*. British Medical Journal, 1976. **1**(6025): p. 1594.
73. Vickers, M.D., *Selection of anaesthetists*. Anaesthesia, 1980. **35**(6): p. 545-7.
74. Vickers, M.D. and P.E. Reeve, *Selection methods in medicine: a case for replacement surgery?[see comment]*. Journal of the Royal Society of Medicine, 1990. **83**(9): p. 541-3.
75. Reeve, P.E., M.D. Vickers, and J.N. Horton, *Selecting anaesthetists: the use of psychological tests and structured interviews*. Journal of the Royal Society of Medicine, 1993. **86**(7): p. 400-3.
76. Vickers, M.D. and P.E. Reeve, *Selecting for specialist training: 2*. British Journal of Hospital Medicine, 1993. **50**(11): p. 663-9.
77. Vickers, M.D. and P.E. Reeve, *Selecting for specialist training: 1*. British Journal of Hospital Medicine, 1993. **50**(10): p. 605-8.
78. Vickers, M.D., *The psychology of human error.[comment]*. European Journal of Anaesthesiology, 1999. **16**(8): p. 578.
79. Vickers, M.D., *Specialist registration: a critical look at the proposals of the Merrison report*. British Medical Journal, 1976. **1**(6005): p. 328-31.
80. Rosen, M. and M.D. Vickers, *Distinction awards*. British Medical Journal, 1978. **1**(6118): p. 991-2.
81. Vickers, M.D., *The Unity of the Royal College of Surgeons*. Anaesthesia, 1978. **33**(3): p. 301.
82. Vickers, M.D. and M. Rosen, *Future of British anaesthetics*. British Medical Journal, 1978. **1**(6125): p. 1491.
83. Heyde, G., G. Pelosi, and M.D. Vickers, *[The training of anesthesiologists in Europe. The training of anesthesiologists and its duration]*. Cahiers d Anesthesiologie, 1988. **36**(5): p. 395-8.
84. Vickers, M.D., *[The training of anesthesiologists in Europe. Curriculum and objective of the studies]*. Cahiers d Anesthesiologie, 1988. **36**(5): p. 398-401.
85. Vickers, M.D., *[The training of anesthesiologists in Europe. The number of anesthesiologists and their workload]*. Cahiers d Anesthesiologie, 1988. **36**(5): p. 390-5.
86. Zorab, J.S. and M.D. Vickers, *The European Academy of Anaesthesiology--1992 and beyond*. Journal of the Royal Society of Medicine, 1991. **84**(12): p. 704-8.
87. Vickers, M.D., *The Measurement of Recovery from Anaesthesia*. British Journal of Anaesthesia, 1965. **37**: p. 296-302.
88. Vickers, M.D., *Postoperative pneumonias*. British Medical Journal Clinical Research Ed., 1982. **284**(6312): p. 292-3.

89. Bahar, M., et al., *Histopathology of the spinal cord after intrathecal cocaine, bupivacaine, lignocaine and adrenaline in the rat*. European Journal of Anaesthesiology, 1984. **1**(3): p. 293-7.
90. Bahar, M., M. Rosen, and M.D. Vickers, *Chronic cannulation of the intradural or extradural space in the rat*. British Journal of Anaesthesia, 1984. **56**(4): p. 405-10.
91. Horton, J.N. and M.D. Vickers, *Administration of clinical units: experiences in a department of anaesthetics*. Health Trends, 1984. **16**(3): p. 58-60.
92. Klepper, I.D., et al., *Respiratory function following nalbuphine and morphine in anaesthetized man*. British Journal of Anaesthesia, 1986. **58**(6): p. 625-9.
93. Clyburn, P.A., M. Rosen, and M.D. Vickers, *Comparison of the respiratory effects of i.v. infusions of morphine and regional analgesia by extradural block.[see comment]*. British Journal of Anaesthesia, 1990. **64**(4): p. 446-9.
94. Vickers, M.D., [*Consciousness in general anaesthesia*]. Anesteziologia i Reanimatologia, 1990(5): p. 3-7.
95. Szekely, S.M. and M.D. Vickers, *A comparison of the effects of codeine and tramadol on laryngeal reactivity*. European Journal of Anaesthesiology, 1992. **9**(2): p. 111-20.
96. Vickers, M.D., *My impressions of Sri Lanka*. Ceylon Medical Journal, 1992. **37**(1): p. 26-8.
97. Vickers, M.D., *Potassium in the perioperative period.[comment]*. British Journal of Anaesthesia, 1992. **68**(2): p. 224-5.
98. Yoshizumi, J., et al., *Effects of small concentrations of isoflurane on some psychometric measurements*. British Journal of Anaesthesia, 1993. **71**(6): p. 839-44.
99. Hughes, J.A., et al., *Reducing smoking. The effect of suggestion during general anaesthesia on postoperative smoking habits.[see comment]*. Anaesthesia, 1994. **49**(2): p. 126-8.
100. Asai, T., M.D. Vickers, and I. Power, *Clonidine inhibits gastric motility in the rat*. European Journal of Anaesthesiology, 1997. **14**(3): p.316-9.
101. da Silva, J.M., W.W. Mapleson, and M.D. Vickers, *Quantitative study of Lowe's square-root-of-time method of closed-system anaesthesia*. British Journal of Anaesthesia, 1997. **79**(1): p. 103-12.
102. Vickers, M.D., *Revalidation of the retired: bad faith and a worse decision.[see comment]*. Journal of the Royal Society of Medicine, 2002. **95**(1): p. 46-7.