Anaesthesia in the 1920s

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Numbers and status of anaesthetists
At the time of publication of the first issue of the British Journal of Anaesthesia in July 1923, there were not many whole-time anaesthetists in this country, and these were confined to university teaching hospitals. Blomfield (1922) stated that there were 27 specialists at 12 teaching hospitals in London, and a similar situation existed in the provinces. In the peripheral hospitals, anaesthesia was administered by general practitioners with part-time contracts and a special interest in the subject. But in many cases, emergencies devolved to house officers with very little experience. Woolmer, the first Professor of the Faculty of Anaesthetists, has described his first administration of an anaesthetic (open drop chloroform) in an x-ray department in the dark, given within 1 h of arriving to take up a new appointment. Any medical practitioner was considered competent to give an anaesthetic on qualification, a situation which concerned Buxton. The General Medical Council had required, since 1911, that every doctor, on qualification, should provide evidence of instruction in anaesthesia, but Buxton felt that only the minimum was being done to comply with this requirement. Undoubtedly, many anaesthetics were given by an occasional administrator in a domestic setting or in a surgery. General anaesthesia was also required in the dental chair and many anaesthetics were given by dentists. The Dentists Act of 1921 admitted a few hundred experienced but unqualified people to the Dental Register.

A particular feature of the history of anaesthesia in this country is that, since its earliest days it has been largely in the hands of the medical profession, a fact admired by colleagues in the USA and Europe. In many parts of the USA it was considered to be a nurse’s job. No doubt in places the service was excellent but in the 1920s the situation was evolving and, on both sides of the Atlantic, extremely able doctors were emerging who considered anaesthesia to be worthy of a physician's full time attention. This process was postponed in Europe, where surgeons continued to dominate the management of anaesthesia by employing junior assistants, and making widespread use of local and regional techniques.

One reason why specialist anaesthetists were not a common feature was financial. At teaching hospitals, a small payment was usually made in recognition of duties towards undergraduates, but the tradition was that services were given free in return for the opportunity of private practice through contact with surgeons. The anaesthetist, however, did not submit an account, but had to rely on the discretion of the surgeon for payment, generally a small fraction of his fee. Unless there were other sources of income, this could have led to some financial difficulties, and in one case may have been a factor in a suicide.

The perception of today's anaesthetist by patients is not well defined, and it was probably even less so 75 yr ago. On one occasion the public may have been more aware of the anaesthetist’s role; in December 1928, King George V had a rib resected for empyema complicating lobar pneumonia. The anaesthetist was Francis Shipway of Guy's Hospital, and when honours were distributed to the medical and nursing team in the following February, he received a knighthood.

Anaesthetic agents
The most commonly used agents in the 1920s were nitrous oxide, ether and chloroform.

Nitrous oxide
Nitrous oxide, oxygen and ether had been a popular sequence since the time of Clover, and nitrous oxide and oxygen were often given to accompany local or regional blocks. Other uses of nitrous oxide as the sole agent were inevitably accompanied by hypoxaemia. The technique described by Hewitt in 1893 where induction was with 100% nitrous oxide, and a small percentage of oxygen (usually less than 10%) was then added, was widely used for brief operations and in the dental chair. The patient was invariably cyanosed and sometimes jactitated.

McKesson described his secondary saturation technique in 1920 and modified it in 1926; 100% nitrous oxide was given first (primary saturation), oxygen under pressure was added to improve the patient’s colour, followed by more nitrous oxide (secondary saturation) and oxygen alternately. The technique was condemned by Gwathmey, and Boyle said that it frightened him. It was defended by Sykes, who thought the results were good in McKesson's hands.

Nunn has commented on the apparent acquiescence of the 19th century anaesthetists in hypoxaemia and this continued until well into the
present century. Nevertheless, nitrous oxide was regarded as a safe anaesthetic, with few attributable deaths. Smith has suggested that the body can tolerate a brief period of acute hypoxaemia, but has speculated on the intellectual cost.

In 1926, the anaesthetic section of the Royal Society of Medicine discussed the purity of the gas in cylinders of nitrous oxide at some length, and agreed that 95% was acceptable. At this time cylinders were not pin-indexed or colour coded. In 1930 a five theatre block with piped gases was opened at St Bartholomew's Hospital in London.

ETHER

Despite manifest disadvantages, ether owed its continuing use in this decade and beyond to the maintenance of circulatory stability at high inspired concentrations, and to its ability, also at high concentrations, to produce abdominal relaxation, which approached that provided by today’s relaxants. In these respects it had no real rivals. But it was flammable and explosive, and its after effects were extremely unpleasant. They were vividly described by Henderson and Coburn in the following terms: “patients... were flaccid, cyanotic, pallid, or grey, with empty veins, weak peripheral pulses, and depressed respiration; it was one to three hours before consciousness returned, and this was followed by nausea, vomiting, and retching for some time afterwards”.

CHLOROFORM

Controversy continued to surround this agent. The opinion that “chloroform should be discarded” may well have been expressed in the 1920s; in fact the quotation is from the 19th century. The American Medical Association sought a ban in 1912. In 1923 a “famous” London hospital had 42 chloroform fatalities in 8 weeks, and a correspondent to the British Medical Journal regretted that “week after week the chloroform holocaust goes on”.

In 1922, Levy published his monograph, Chloroform Anaesthesia, in which he identified a previously unrecognized cause of death, that of ventricular fibrillation in light anaesthesia, which could also be precipitated by the use of epinephrine. He and others who recognized the hazards gave rules for safe administration, but there were enthusiasts who claimed never to have had any problems. Chloroform was cheap, easy to administer and not explosive. This enigmatic agent was still attracting contributions to the literature in the 1970s.

OTHER INHALATION AGENTS

Ethyl chloride was well established and di-vinyl ether appeared at the end of the decade. Both were suitable for brief administrations but were too toxic for more prolonged use.

Acetylene (1922) and ethylene (1923) were greeted initially with some optimism because they could be used as the sole agent with an adequate concentration of oxygen, but they had an unpleasant garlic-like odour, were explosive and showed no clear advantage in terms of postoperative nausea and vomiting. They never really became established in the UK.

Cyclopropane became more widely used in the 1930s, but made its first appearance in the literature in 1929. The second human guineapig to receive it was none other than the Nobel laureate Frederick Banting. It was possibly the first agent the cost of which caused some surprise.

The curious episode of ethanesal should be mentioned. Boyle and Hewer wrote favourably of this agent, which was ether containing ethylene, carbon dioxide and “potent ketones”. There was an erroneous belief that pure ether was not an anaesthetic but merely acted as a solvent for more potent substances. Following unfavourable comments by the American Medical Association and thorough testing by Dale, Hadfield and King, ethanesal passed quickly out of use.

NEUROMUSCULAR BLOCKING AGENTS

De Caux used an aqueous solution of curare i.v. in seven patients at the North Middlesex Hospital in 1928. Nothing was published at the time, but Goldman recalled discussing the cases with de Caux and referred to them in a book in 1948. It seems to have been an isolated occurrence.

Techniques and equipment

OPEN METHODS

The technique most commonly used in this decade was still the open drop method; ether and chloroform were given in this way. The liquid was poured from a bottle with a dropper onto gauze held in a wire-framed mask. The face and eyes were protected with material such as gamgee. The liquid had a tendency to freeze on the gauze, reducing the evaporating surface and requiring a change from time to time. Mixtures of chloroform and ether were also given by this method, the most popular being two parts chloroform and three parts ether (C2E3) or alcohol, chloroform and ether (ACE) in the ratio 1:2:3. The evidence that they modified the disadvantages of ether or made chloroform safer is not convincing.

BOYLE’S MACHINE

Boyle’s machine first appeared in 1917 and was presented to the anaesthetic section of the Royal Society of Medicine in 1918. In its original form it consisted of nitrous oxide and oxygen cylinders, a water sight feed bottle for indicating gas flows and an ether vaporizing bottle, all mounted on a platform with wheels. The cylinders had reducing valves, but because the nitrous oxide was not dry they had a tendency to freeze, and a spirit lamp was provided to keep them warm. The gases were admitted to the ether bottle by a tap. This design underwent modifications so that by 1930 there was a second vaporizing bottle (for chloroform), a third water sight feed tube (for carbon dioxide) and a plunger device on the vaporizing bottle. Boyle readily acknowledged the influence of Gwathmey in his design; a Gwathmey machine was shipped to England in 1916 and used by Boyle as a model.
Boyle’s machine did not immediately displace all others; there is evidence that some older equipment continued in use for some time. Magill, in his early communications, recommended Shipway’s apparatus. Some anaesthetists had machines to their own design. J. Ross McKenzie of Aberdeen persuaded Coxeter to make a machine for him that would give nitrous oxide, oxygen, carbon dioxide, ethylene, propylene and acetylene.

Another important machine, involving a new principle and to prove of lasting worth in the field of dental anaesthesia and self-administration, was the intermittent flow apparatus shown by McKesson at the British Medical Association meeting in 1926.

INTRATRACHEAL ANAESTHESIA

In 1965, Armstrong Davidson wrote, “Intubation was the most important advance in technique since the introduction of anaesthesia”. Although not the first description of tracheal intubation, Rowbotham and Magill’s account in 1921 of their solution to the problems posed by the patients at Gillies’ Plastic Surgery Unit at Sidcup, Kent, is regarded as the origin of today’s routine practice. Mask techniques were not applicable as the majority of operations were on the face. Nitrous oxide, oxygen and ether were insufflated via an intratracheal catheter, but an expiratory tube was also provided. Initially this was a nasopharyngeal tube; later, a second intratracheal catheter was used, and finally a single wide bore red rubber tube.

The tubes were passed using a direct vision laryngoscope. The design was not specified, but Magill did invent his own based on Chevalier Jackson’s straight bladed instrument. Rowbotham performed a blind nasal intubation in 1920, and Magill by his description in 1930, hoped that the technique would become more widely used. He was not in favour of routine intubation because he believed that anaesthetists should be skilled in maintaining an airway.

Intratracheal anaesthesia was not at first universally accepted, and there were those who were concerned about ill effects, including surgeons. Hewer recorded the deception of covering the intratracheal tube with a mask. The addition of an inflatable cuff to wide bore tubes was described not by Magill but by Guedel and Waters. Magill and Rowbotham used throat packs where aspiration was a risk.

I.V. AGENTS

The days of the ultra-short acting barbiturates were yet to come, but the first description of the use of barbiturates i.v. was in the 1920s; a considerable amount of literature came from Europe. An early British publication was that of McDonald in 1926. He gave an account of the use of somniferyl as a basal hypnotic before abdominal surgery, performed under regional block combined with light general anaesthesia. Lundy (who was largely responsible for furthering the cause of thiopental) used pentobarbitral i.v. at the Mayo Clinic. He defined four stages from sedation to very deep unconsciousness, where some surgery was possible, but it was accompanied by severe hypotension, respiratory depression and the need to maintain an airway. The lengthy period of recovery running into hours was no surprise to those familiar with ether anaesthesia. Lundy also mentioned the successful treatment of convulsions with this drug.

Constantin (1929) gave details of a technique using 96% ethyl alcohol in glucose i.v. as the sole agent for abdominal surgery. Surprisingly, expected side effects of headache, nausea and vomiting were not mentioned. This increasing interest of anaesthetists in i.v. agents implied that, for the first time, they came to be regarded as experts at venepuncture.

RECTAL ADMINISTRATION

As with i.v. agents, the initiatives for rectal administration came from outside Britain. Gwathmey was an enthusiast for rectal administration of oil/ether. Blomfield felt that the rectal route was useful “in certain circumstances”. Rowbotham felt that basal narcosis with rectal barbiturates was a considerate way to treat children. The discovery of Avertin (bromethol) in 1929 led to its increased use in general surgery and obstetrics, but not as the sole agent.

LOCAL AND REGIONAL ANALGESIA

The majority of techniques in use today were in place in the 1920s. Labat’s very comprehensive textbook was published in 1923. Labat was an anaesthetist, and anaesthetic texts always carried a section on local and regional analgesia, but a considerable number of blocks were performed by surgeons, and the extent of anaesthetists’ involvement is not always clear. Lee’s article on Barker suggests that this pioneer of spinal anaesthesia believed that the technique fell within the province of surgeons. On the other hand, Whitehouse felt that surgeons were trespassing in the anaesthetic field.

Spinal anaesthesia had been used for operations on the head and neck, but a common view held at this time was that they were most useful in operations below the umbilicus. The range of suggestions for use is wide, and includes abdominal emergencies such as intestinal obstruction, where its use is less likely today. Spinal anaesthesia was also suggested for the treatment of ileus.

The local anaesthetic drugs used were commonly procaine, the withdrawn CSF being used to dissolve the crystals, and stovaine. Cocaine was by now confined to surface analgesia. Cinchocaine appeared in 1929. Discussions about light and heavy preparations and positioning the patient seem less relevant today. The significance of using small bore needles was recognized. Neurological complications undoubtedly occurred, but were not given great prominence.

The usual approach to the extradural space in this decade was via the sacral route. It was not realized until later that Pages, a surgeon in Madrid, had published an article in 1921 in which lumbar, thoracic and cervical approaches were mentioned. When Dogliotti of Turin described lumbar extradurals in 1931, he was not aware of Pages’ work, but later acknowledged it.

Surgery

ABDOMEN

The surgeons of the 1920s would have welcomed the degree of relaxation of the abdominal wall which is
now an everyday occurrence; it was often a struggle to close the abdomen. Comparable conditions could be produced by spinal anaesthesia, and also by paravertebral, intercostal or rectus sheath block, supported by coeliac axis block, but occasionally a covering light general anaesthetic was given because of patchy analgesia, or a spinal block that was not high enough. Hewer recommended the insufflation technique used in thoracic anaesthesia (see below), but statements that agents such as ethylene or chloroform produced reasonable relaxation somehow lacked conviction. When McKesson discussed his secondary saturation technique at the Royal Society of Medicine in 1926, it was felt by some speakers that the degree of muscle rigidity would not be accepted by English surgeons.53

BALANCED ANAESTHESIA

Crile was a strong advocate of a combination of local and light general anaesthesia with nitrous oxide (anoci-association). He argued that if all afferent stimuli including fear were abolished the patient would not suffer shock and its consequences. Although his work is much quoted, it is difficult to know to what extent his ideas were put into practice. One author thought that lip service was paid to them while people continued to pour quantities of ether and chloroform on to masks. Even in Europe where these methods were commoner, it was felt that Crile’s work was not as well known as it should have been.23

Although many routine surgical procedures are unchanged, our predecessors in the 1920s faced many problems that do not exist today.

THORAX

Surgery was an important part of the treatment of tuberculosis, using such procedures as rib resection for empyema and thoracoplasty, which could be quite extensive, for reducing the size of cavities. Lobectomy was on the increase towards the end of the decade,10 but pneumonectomy was not yet established. Chest wall procedures could be carried out satisfactorily under local anaesthesia. Other procedures were performed with combinations of local anaesthesia, sedation, narcotics and general anaesthesia which varied from centre to centre. As there were no antibiotics, and spread of the disease within the lungs was feared where sputum was plentiful, there was a demand for a plane of anaesthesia which preserved the cough reflex, an exacting requirement in the days before one-lung anaesthesia, double-lumen tubes and bronchus blockers.

The usual solution to the pneumothorax problem was intratracheal insufflation of nitrous oxide, oxygen and a volatile agent, usually ether, under sufficient pressure (10–20 cm H₂O) to maintain some expansion of the lungs. Respiratory movements were much diminished or even absent, yet oxygenation remained good through diffusion. Periodic deflation of the lungs was necessary to maintain venous return. The technique was developed clinically in American by Elsberg.21

THYROID SURGERY

Many patients with florid Graves disease presented for thyroidectomy, as there was no effective medical treatment for thyrotoxicosis. There were no consistent recommendations for anaesthetic management, but it seemed widely agreed that chloroform was contraindicated. Crile believed that these highly nervous and excitable patients should not be told the day of their operation. They were given practice inhalations and injections of sterile water for a few days. On the appointed day, nitrous oxide, morphine and hyoscine were administered to the patient in bed; transfer took place to the operating theatre and the operation was completed with local anaesthetic supplement. This method was known as “stealing the thyroid”.

OBSTETRICS

In operative obstetrics, all available anaesthetic techniques were used. There did not seem to be any awareness of the risk of regurgitation and inhalation of gastric contents.

CARDIAC SURGERY

There was occasional discussion in the journals on the role of surgery in valvular heart disease.30 Souttar performed a transauricular split of the mitral valve at the London Hospital in 1929.20 The anaesthetic was administered by Lindsay, a surgical colleague, using open drop ACE mixture at induction and intratracheal nitrous oxide, oxygen and ether by insufflation.

The perioperative period

PREPARATION

The statement that preoperative purgatives and enemas should be phased out6 suggests that the practice was continuing in some quarters. On the other hand, there was encouragement to give adequate fluid up to the time of operation, although the route of administration was not specified.

PREMEDICATION67 68

Although the word may have been used informally, the first mention of it in print seems to be by McMechan in 1920. Previously, terms such as preliminary medication or pre-anaesthetic medication were used. The drugs available were atropine, morphine and hyoscine. It is surprising how little those drugs were used preoperatively in this country before 1911, when there was increased interest in their properties. Sometimes they were all given together, and although respiratory depression prolonged induction with ether, it also made it smoother. But despite reduction of apprehension, some surgeons and anaesthetists were unhappy about the use of both morphine before operation, especially before chloroform, and of hyoscine, which was thought to contribute to increased muscular rigidity.

Atropine was the only drug which could be said to have been prescribed routinely, particularly for its effect in reducing the considerable bronchorrhoea stimulated by ether. It was also advocated before the administration of chloroform as protection for the heart, particularly against vagal overactivity. There is
some doubt surrounding this proposition, and as Levy pointed out, the use of atropine did not prevent chloroform deaths.41

The term “twilight sleep” was given to the practice of injecting morphine and hyoscine in generous doses in the labour ward, with additional doses of hyoscine to produce amnesia. The price of this was an increased degree of restlessness.

RISK ESTIMATION

There was no ASA classification or Goldman multifactorial risk index, but there were some attempts to assess preoperative cardiac status. Goodall believed that every general hospital should have a cardiac department where routine preoperative examination of surgical patients could be done.26 Blomfield emphasized the significance of dyspnoea as a symptom, and believed that information from exercise testing and breath-holding was important. Moots59 proposed some quantitative tests, such as the pressure ratio (pulse pressure/diastolic pressure, range 30–70%) and the energy index (the product of the sum of systolic and diastolic pressures, and heart rate; range 12–18 000), which is similar to the more recent concept of rate–pressure product.

MONITORING

Much monitoring must have been rudimentary. With two hands occupied holding a face mask, or pouring liquid on to gauze, visual assessment of respiration and colour would have been the main observations, with occasional palpation of the pulse and examination of the pupils. Guedel’s signs had been published in 1920.27 Recent studies have demonstrated that detection of cyanosis is not always reliable,12, even by experienced observers, so that some degree of hypoxaemia must have been common, especially in patients breathing air.

From the standpoint of the 1920s, the recording of arterial pressure was relatively new. Hewer considered that it should be recorded every 5 min during abdominal surgery and recorded on a graph.34 He thought that it should be recorded every 5 min during abdominal surgery and recorded on a graph.34 He used a brachial artery stethoscope and a cuff. Mennell, of St Thomas’, who worked with the eminent neurosurgeon Sir Victor Horsley, also emphasized the importance of frequent readings.58 Investigations were beginning into the indirect measurement of venous pressure in relation to anaesthesia.

RESUSCITATION

In an era when techniques of cardiopulmonary resuscitation are widely taught, it might be thought that our predecessors were not so skilled in this area. Information was rather scattered in various texts, and as a considerable number of anaesthetists were self-taught, it would be a matter of chance whether the necessary knowledge was to hand. Nevertheless, there were some effective techniques for the treatment of respiratory and circulatory failure.

Various methods of artificial respiration, such as the Silvester, had been described from the 1850s. Compression of the chest is also described,8 so that some patients may have unwittingly received external cardiac massage. Mouth-to-mouth respiration is mentioned by Levy and others as a little known technique which deserved a wider awareness.41 If an intratracheal catheter was in place it could be used for insufflation; it could also be blown down, or attached to a pump or bellows (perflation). It does not seem to have occurred to anybody to squeeze a rebreathing bag.

Internal cardiac massage was in the repertoire. If the abdomen was open the heart was approached through the diaphragm, otherwise an intercostal incision was made. Intracardiac epinephrine was also used. Although these methods were undoubtedly effective in some cases, there are no values for success rates.

Treatment of hypovolaemic shock was less confident. The feasibility of blood storage64 and person to person transfusion had been demonstrated during World War I, but there were no blood banks, and registration of donors was only just beginning. There was a reluctance to use the i.v. route except as a last resort,69 despite wartime experience with gum solution as a plasma expander.5

Stimulant drugs such as strychnine had been in use for some time. Ephedrine was introduced in 1924.

POSTOPERATIVE CARE

The treatment of postoperative pain has a low profile in the literature of this period. Because of more prolonged recovery from anaesthesia, it did not require the early attention that it does today, but presumably patients were handed over to nursing staff and given morphine i.m. One thoracic surgeon prescribed morphia for his patients for 12 days. The rectal route was sometimes used for administering analgesia combined with sedation, for example aspirin and bromide. Maintenance fluids were seldom given i.v., but more usually by the rectal route or subcutaneously.

More thought was given to the problem of postoperative vomiting, although treatment was empirical. There were no specific antiemetic drugs; atropine and hyoscine had antiemetic properties but were used for other reasons. A variety of hot and cold liquids, medicinal, mineral waters, beverages and also alcoholic drinks such as brandy and champagne had their advocates. It had to be borne in mind that not all postoperative vomiting was related to the anaesthetic; the cause was sometimes surgical. It was hoped that the use of warmed intratracheal ether, and also Henderson’s de-etherization technique with carbon dioxide,33 would reduce the incidence of vomiting. The possibility of recovery wards was raised by Flemming,24 but he was concerned that surgeons voracious for beds would seize them.

Insulin, of which limited supplies started appearing in 1923, was becoming more widely available.

COMPLICATIONS

The Section of Anaesthetics at the Royal Society of Medicine discussed deaths in April 1923.10 Mennell was able to assure them that every death during anaesthesia at St Thomas’ was investigated by a subcommittee consisting of an anaesthetist, pathologist and a surgeon. Many cases were unrelated to anaesthesia, but in some it played a principal part. Flemming pointed out that the death rate associated with operation was
stationary, despite an increase in the number of administrations. It is to be hoped that the report of three deaths in one day at Poplar Hospital, which was the subject of a question in parliament,30 was an aberration, although it suggests incompetence.

Some members were concerned that it was a statutory requirement to report on deaths on the table to the coroner, who then usually held an inquest. There was unhappiness about the quality of newspaper reporting, and the fact that these deaths were classified by the Registrar General as anaesthetic deaths. There was no requirement to report postoperative deaths (some of which might have been associated with anaesthesia). Post mortem was generally unhelpful where there was no gross pathology, fatty degeneration of the heart being a useful label. Status lymphaticus,7 a syndrome characterized in young people by lymphoid hyperplasia, was a recurring diagnosis, although it later lost its validity. In a retrospective review, McIntosh49 considered that this diagnosis obscured the fact that death was caused (then as now) by failure to maintain an airway. He also demonstrated that coroners were frequently lenient in finding no fault with the treatment. There was a reminder that death could also occur with local anaesthesia.47 Mayer described 46 cases in 1924, 26 caused by cocaine.

Pinson61 estimated in 1930 that there were at least 100 fires and explosions annually in theatre. Many of these resulted in injuries of a minor nature, but there were some deaths. The increasing use of diathermy, for coagulation and debulking of tumours, was an additional risk factor.

In the first issue of Current Researches in Anesthesia and Analgesia, an editorial by McMechan implied that the death of a Dr Curtain was associated with the administration of 30 000 ether anaesthetics. The author regretted that medical science provided no protection from this, whereas it did provide for the protection of radiologists.

**Literature and postgraduate activity**

**BOOKS**

McIntosh is quoted as saying at this time that the only means of acquiring knowledge beyond the basics was to study books published abroad.4 Presumably he was referring to Gwathmey’s book,36 the second edition of which was published in 1925. Two well-established British books appeared in new editions; a sixth edition of Buxton’s book of 1888 appeared in 1920 and a fifth edition of Hewitt’s book of 1893 was published in 1922. Hewitt died in 1916 but the new editor, Robinson, kept the name. Blomfield produced a fairly substantial book of 424 pages in 1922,3 which was well reviewed in the British Medical Journal, but as Zuck70 has pointed out, there was no major British specialist textbook published between 1922 and 1947. Other influential names did not enter the field until the 1930s (Guedel, Lundy, Minnitt, Waters). Some surgical books contained a chapter written by an anaesthetist (e.g. Magill35).

**JOURNALS**

The first issue of Current Researches in Anesthesia and Analgesia appeared in 1922; it was a continuation of the proceedings published by the National Anesthesia Research Society Inc. It was edited by McMechan, who had also been responsible for the twice yearly anaesthesia supplement in the American Journal of Surgery, which had started in 1914. Once Current Researches became established, these supplements were phased out.

The British Journal of Anaesthesia was a new venture for the UK, although with a target of 500 subscribers it was looking for international recognition. The price was 10s 6d for a single issue and the editor pronounced himself satisfied with progress at the end of the first year. It was his ambition to publish the journal monthly.

An earlier source of printed material was the anaesthetic section of the Royal Society of Medicine, which was published in the proceedings, and which had been formed in 1908 with more than 100 members.

It should be acknowledged that the general medical journals, the British Medical Journal and the Lancet, and the Journal of the American Medical Association were reasonably generous in providing space for matters of interest to anaesthetists. Some of it took the form of abstracts and reports of meetings, but there was also representation in articles, editorials, book reviews and correspondence.

**SOCIETY MEETINGS**

The British Medical Association Annual Scientific Meeting had an anaesthetic section from 1920. In 1925, A. R. Cox, the secretary of the British Medical Association, met McMechan at an international congress and invited him to the next meeting in Nottingham. This was the first time that associations from Britain and North America had met and it cemented transatlantic friendships that had begun in World War I. McMechan was later elected honorary associate editor of the British Journal of Anaesthesia.

There was a Scottish Society of Anaesthetists formed by a group of general practitioners in 1914. The first provincial society in England was the Liverpool Society of Anaesthetists (1930). Anaesthetists did of course give papers to local medical societies.46

**ANAESTHETIC DEPARTMENTS**

In 1927, the Dean of a new medical school at the University of Wisconsin approached some of his contemporaries with a view to setting up university departments; among them was Ralph M. Waters. He is quoted as saying73 that the formation of the specialty depended “first upon men, second upon publications, and third upon organisations through which men meet for mutual development by exchange of ideas”. The reputation of his department grew steadily, and it attracted visitors from all over the world. Among them was McIntosh, the holder of the first British chair at Oxford, who later paid a very warm tribute to Waters.50

Another significant appointment at this time was that of J. S. Lundy at the Mayo Clinic. In addition to his work on i.v. agents, he developed an anatomy laboratory.17
FUTURE ASPIRATIONS

In the first issue of the British Journal of Anaesthesia, the editor had a wide ranging view of the future of the specialty, although the reality had to wait until the formation of the Association of Anaesthetists in 1932. Cohen returned to the subject in an editorial in January 1927, starting with the premise that the present state of anaesthetic instruction was not worthy of such an important branch of surgery. “Nothing less than a well-equipped Department or School, with paid instructors capable of teaching all the various types of general and regional anaesthesia, as well as Physiology, Chemistry, and the Mechanics of the Subject will suffice”.

The president elect of the British Medical Association, Sir Robert Philip, who had for a time acted as an anaesthetist for Thomas Keith of Edinburgh, a pioneer of ovariectomy, addressed the Section of Anaesthesia at the 1926 Scientific Meeting, and said that the satisfactory practice of anaesthesia rested ultimately in physiology. The anaesthetist would be a physician in the best sense of the word.

The anonymous obituarist of H. W. Webber (1955) thought that 1922 was a year when widening knowledge had begun to stir the rather static world of anaesthesia. The stage was now set for further advances in the 1930s.

Conclusion

Although anaesthesia was still crude in some ways, the 1920s saw many developments. The wider use of tracheal intubation, introduction of anaesthetic machines and appearance of new journals are some examples that have been mentioned above. More doctors were becoming interested in anaesthesia as a specialty, and there was movement towards a wider role beyond mere administration of gases. The appearance of the first recognized department of anaesthesia devoted to teaching and research was an important pointer for the future.

References

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64. Robertson OH. Transfusion with preserved red blood cells. *British Medical Journal* 1918; 1: 691–695.