

THE NOVA SCOTIA MEDICAL BULLETIN

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Summer Meeting 1966

More than three hundred people - Members, guests, wives and children - were registered at Digby for the first summer meeting of the Society. The weather was perfect and the clinical and social programmes proved to be an ideal mixture. Within a period of a few months we have broken new ground by adopting Council, holding annual meetings at twelve month intervals in the fall and a summer meeting in July. The Executive Committee has approved provisional reservations for summer meetings at Digby in July 1967 and at Ingonish in July 1968, as well as for annual meetings in Sydney in 1967 and Halifax in 1968. A new pattern has emerged for the next few years. These arrangements have not been made without some anxiety by the Executive Committee and misgivings on the part of some of our members.

As a profession we tend to be conservative; and rightly so. If, as the cynics say, we bury our mistakes, then we should always consider changes with great care, bearing in mind the possible effects of abandoning the well proven procedure and running after a new thing. And yet the ever widening horizons of knowledge beckon us on. It is within the professional lifetime of many of our members that the emphasis has swung from the art to the

science of medicine. Art is relatively static: knowledge is said to be doubling every ten years and the pace is likely to increase.

Political changes are in the making. Old parties, traditionally to the right of centre are in a surprising, and some may feel unedifying, competition for the approval of the voter by promising more and more welfare programmes. Perhaps such programmes are the only practicable way in which the benefits of the science and technology of today can be brought to the man in the street. Be that as it may, as a provider of an essential and fairly expensive service, our profession has become something of a political football. As far as the future is concerned, one can only say with certainty that it will be different from the past.

Now is the time for us to take stock and decide what are the essential principles to which we must hold fast: it is also the time to select new objectives which the changing circumstances may permit us to pursue.

Those of us who went to Digby in July found the summer meeting delightful: it was a change from previous occasions. Perhaps there is a moral in this? □

A.J.M.G.

113th Annual Meeting and 2nd Meeting of Council

HALIFAX NOVEMBER 25 & 26

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NOVA SCOTIA DIVISION

OF

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Experiences with Dimethylsulfoxide

JOHN F. L. WOODBURY, M.D., C.M.¹

Halifax, N. S.

As is well known, Dimethylsulfoxide ("DMSO") received a great deal of publicity in magazines before much was published about it in medical journals. The chemical is a close relative of acetone and is in common use by chemists as a solvent. In December 1963, a news release stated that "DMSO appears to have properties which suggest its possible use as a pain reliever and anti-inflammatory agent". Since then the drug has been released to a number of investigators. The author did not receive a supply of the drug until August 1965 and used it in only five patients before the chemical was withdrawn from clinical use because changes had been demonstrated in the refractive index of the lens in the eyes of animals undergoing chronic toxicity testing with DMSO.

Although it appears improbable that this drug will again be released for medical use it may be of some interest to report the findings in this small series.

Of the five patients treated, two were male, three female; ages ranged from 41 to 69 years - diagnosis was rheumatoid arthritis in one patient, frozen shoulders in two patients, tendonitis in two patients. In the two patients with tendonitis one had hyperuricemia and a trial of many months of uricosuric therapy for this condition had not resulted in any improvement in the tendonitis. The other patient had bilateral Achilles' tendonitis associated with primary osteoarthritis.

DMSO was used in a concentration of 70 per cent and was painted over fairly broad areas overlying the affected joints or tendons as recommended by the pharmaceutical supply house.* In the patient with Rheumatoid Arthritis no improvement was recorded over a period of two weeks of treatment of the right wrist, the right hand and the shoulders using applications initially three times a day and subsequently twice a day. The patient experienced some erythema of the skin in the area painted with the chemical - she noted an odor which has been described as that of oysters or of garlic on her breath and a similar taste.

In the patient suffering from tendonitis associated with primary osteoarthritis, the chemical was applied to the heels, the first metatarso-phalangeal joint and the fifth finger of one hand where there was hard enlargement of the joint with tenderness. Two applications were given daily for fourteen days. The patient experienced flushing of her face and nose one hour after application and also a sensation of dryness of her mouth. She experienced continual taste of oysters and the skin to which the chemical was applied became wrinkled. Her pain and tenderness was unchanged after two weeks of treatment. The patient had previously had partial and temporary relief of pain and tenderness by Salicylates and an excellent response to Phenylbutazone followed by recurrence when that drug was discontinued.

The other patient with tendonitis was treated on both heels and the left elbow. Two applications were given daily and some relief of pain occurred after four paintings. There was no return of pain between paintings and improvement continued for several days. However, a month later he reported that although his heels might be somewhat improved his arm was not. He did not experience breath odor nor taste. In accordance with the suggestion of the manufacturer Urinalysis, Sedimentation Rate, Hemogram, Platelet Count, Prothrombin Time, Blood Sugar, Blood Urea Nitrogen, Serum Uric Acid, S.G.O.T., S.G.P.T., Serum Bilirubin were done prior to treatment and were repeated at the conclusion of treatment. Serum Uric Acid before DMSO was 9.4 mgs.%; after DMSO 8.0 mgs.%. This is probably not a significant change. All of the other tests were unaltered.

The patients suffering from frozen shoulder comprised a lady who developed marked erythema and vesiculation of the treated skin with severe itching and this allergic manifestation required the discontinuance of the drug despite symptomatic relief which lasted five to six hours after each application. The drug was given for only three days and was applied only once daily. The other patient had severe bilateral frozen shoulder syndrome following pneumonectomy and had been requiring Acetylsalicylic Acid compound with

¹Associate Professor of Medicine, Dalhousie University.

*Dimethylsulfoxide was supplied by Merck Sharp & Dohme

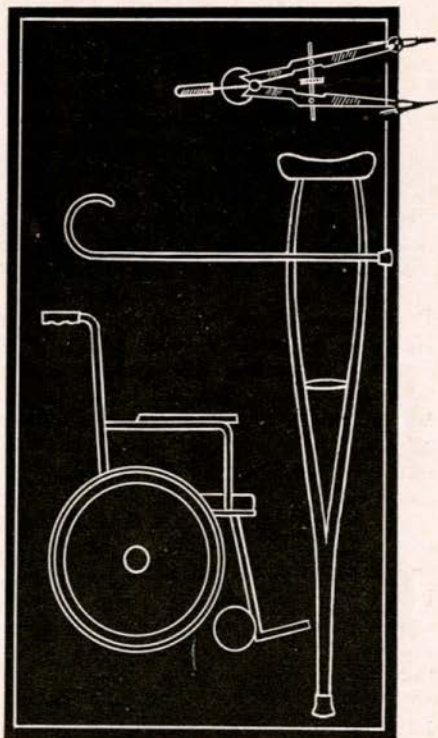
Codeine 30 mgs. every three hours for weeks prior to admission. DMSO was applied to his neck, shoulders, back, the lateral aspect of his chest and his anterior chest wall four times a day during the first two days and three times a day for the next eight days. In this instance the DMSO afforded relief at least equal to that provided by "A.P.C. & C." and this relief was of greater duration persisting for seven hours but causing or contributing to the development of nausea. This nausea necessitated the discontinuing of DMSO treatment after ten days. The patient had been found at operation to have an anaplastic bronchogenic carcinoma. He was not expected to survive for long and following DMSO he developed the syndrome of obstruction of the superior vena cava which was treated with cobalt radiation with considerable relief of symptoms and of obstruction though he died three months after the exhibition of DMSO.

Laboratory tests done prior to treatment with DMSO showed slight elevation of Blood Urea Nitrogen, fine granular casts in the Urine. The other tests mentioned above were repeated after

treatment with DMSO and did not show any significant alteration.

In summary five patients were treated with applications of DMSO to the skin from one to four times a day for periods ranging from three days to 29 days. Nausea was encountered in one patient who was treated over a large skin area, flushing of the nose and face was encountered in one patient, breath odor was noted by four patients, skin reaction developed in three patients and in one patient necessitated the discontinuance of the drug. No life threatening reaction occurred in any patient. The efficacy of the drug in relieving pain was slight or doubtful in one who had no adverse reaction; impressive in two, both of whom developed reactions necessitating discontinuing DMSO, two patients experienced no pain relief.

With the development of changes in the refractive index of the lens in experimental animals this drug has been withdrawn. It is unfortunate that this evidence did not come to light before the drug was released for clinical trial in human beings. □



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Hip Disease in Children

DOUGLAS C. S. BROWN, M.D., F.R.C.S. (C)¹

Halifax, N. S.

Problems of the hip may develop or occur at any age. Trauma and degenerative changes (secondary and idiopathic) arise largely in adults. In children inadequate assessment may too often lead to a delay in diagnosis, and thus in management, of primary conditions resulting in a higher incidence of secondary degenerative arthritis in later years.

Assessment

Certain pitfalls and features in diagnosis will be discussed.

- a History - Remember, pain referred to a knee or thigh can mislead you. In transient synovitis, Legg Perthes' disease, and adolescent coxa vara, pain may subside and at this time assessment of gait and hip examination is of greater importance. It is not necessary to have known recent infection when you are dealing with transient synovitis or septic arthritis.

- b Examination -

Gait: Hip pain causes a short duration of weight bearing which appears to quicken the step (coaxalgic gait). Pain anywhere in the limb results in a similar gait (antalgic).

Hip instability results in a dropping of the opposite hip during weight bearing and is compensated for by lurching the body over the involved hip. Abductor weakness (polio), adduction contracture, and shortened lever arm (coxa vara) will similarly cause the Trendelenberg gait.

The short leg gait is mimicked by a flexion contracture of the hip.

Palpation: The hip joint can be palpated anteriorly lateral to the femoral artery and posteriorly superomedial to the greater trochanter.

Deformity: Thomas's test is designed to pick up a flexion deformity and is one

of the best screening tests in hip examination. Flex the good hip fully. The opposite leg should lie flat on the examining table. Psoas spasm or contracture will prevent this. In infants there is usually a flexion "contracture" which decreases with age as lumbar lordosis occurs. A flexion deformity will cause lordosis when the patient stands erect.

Abduction is assessed with the hips flexed or extended; adduction with the hips extended. Uncover the pelvis - it may be moving under the sheets!

Rotation - internal and external is assessed with the hips flexed to ninety degrees and the two sides are compared.

Congenital Dislocation

Most practitioners are aware of the usual signs of lurching gait, unequal skin creases, wide perineum and abduction contracture. By this time we are seeing these children too late. (See "Are we missing congenital dislocation of the hip?" by Dr. A. Trias¹. Do not ignore the mother who states she has noted a "clicking" hip when changing diapers. This is one cause of delay in walking.

Coxa Vara

Definition - decrease in the neck shaft angle of the femur.

Congenital. Usually seen at about age 3 - 4, these children usually present with a waddling gait with or without pain. A developmental abnormality in the growth of the metaphysis and physis (growth plate) result in a neck shaft angle approaching ninety degrees. The gradual elevation of the greater trochanter alters hip mechanics. Associated defective growth in the remaining femur is occasionally seen. X-rays readily distinguish this condition from congenital dislocation. Treatment is surgical (osteotomy).

¹From the Halifax Children's Hospital and the Department of Surgery, Dalhousie University.

Adolescent - (slipped epiphyses). Seen classically in the sexually immature, obese or rapidly growing patient. This lesion presents in the 10 - 14 years age group. The onset of pain may be insidious or acute and may be periodic. Occasionally injury precedes symptoms. On examination, look for the hip falling into external rotation during flexion and walking. While no deformity need be present there will be limitation of internal rotation and abduction. Radiologically look for decrease in height of the capital epiphyses and absence of the usual "shoulder" of the epiphyses as it projects laterally at the upper lateral aspect of the neck. Lateral (frog leg) views show early slips more readily. Compare both sides initially and periodically during treatment as 10 - 15% of cases may later show contra-lateral involvement. Treatment in early cases by internal fixation and later by osteotomy if the deformity warrants.

Transient Synovitis

Definition - a non-specific inflammation producing a clear or turbid sterile exudate.

It presents in the 4 - 7 year age group, usually abruptly with pain and coxalgic gait. The temperature, sedimentation rate and leucocyte count may be slightly elevated; the tuberculin tests are negative. On examination, flexion deformity is present and extremes of range of motion are painful and accompanied by spasm. The diagnosis is made on the basis of negative culture of joint fluid, absence of demonstrable bone changes on X-ray and its benign clinical course. Soft tissue changes and widening of the joint space are those of synovitis. Whether permanent changes occur is debatable. If epiphyseal necrosis occurs one considers that one has been dealing with Legg Perthes disease.

Treatment consists of bed rest and traction until clinical evidence of synovitis (pain and spasm) has disappeared - 4 - 6 weeks.

Legg Calve Perthes disease

Definition - Idiopathic femoral capital epiphyseal aseptic necrosis.

This better known condition occurs in the 4 - 11 year age group, mainly in boys. They present with hip or knee pain, limp of variable duration, and slow onset with perhaps some periodicity. It can involve both hips, perhaps simultaneously. Diagnosis is based on findings of a coxalgic limp, limitation of hip movement, usually a flexion deformity, negative laboratory studies and confirmed by radiological changes. These include (early) widened joint space and thick capsule of a synovitis and a widened physis with some meta-

physial demineralization. The classical signs of decreased epiphyseal density and wide metaphyses accompanied by fragmentation, collapse, etc., occur later.

The importance of early recognition is based on the generally accepted view that some form of weight relieving therapy affords the best prognosis. Traction and rest are used until the initial pain and deformity disappear. Later a walking caliper (Taylor preferred) or bilateral abduction plasters (Petrie) are used.

Infection

Septic arthritis is usually accompanied by the general manifestations of infection. In infants one has to look for the focus of infection when irritability, fever, feeding problems, etc., are present. Any limitation of hip movement, accompanied by spasm suggests the presence of pus. The older child can indicate the presence of pain. Usually a flexion abduction position is maintained and any movement causes pain.

X-rays show evidence of distension of the joint by fluid and soft tissue swelling.

Diagnosis is confirmed by joint aspiration with gram smears and cultures done immediately. Blood cultures are done simultaneously and repeated.

Management - Systemic antibiotics (penicillin plus a penicillinase resistant synthetic penicillin) and intra articular penicillin (repeated daily) are begun. (Some prefer to open the hip joint). Traction in slight abduction prevents dislocation. Supportive medical management is given as indicated.

The complications to be watched for include dislocation, epiphysal slipping or destruction. One pitfall in considering septic arthritis is its occurrence in a patient with rheumatic fever who is thought to have just another joint involved or in a new patient who is placed on a trial of aspirin because rheumatic fever is suspected.

Tuberculosis is fortunately rare. It tends to occur in children and mimics Legg Perthes disease. Radiologically changes of Synovitis are accompanied by more regional osteoporosis than is seen with the foregoing conditions.

This essay is not designed to bring new information to the practitioner. Rather it is hoped to stimulate him to look a bit more closely when Johnny comes into his office with a "sore leg" or a "limp". □

Reference

1. Trias A., N. S. Med. BULL. 45: 179.

An Assessment of the Haloxair Anaesthetic Machine

A portable machine for use in emergency situations

I. E. PURKIS, M.B., B.S., F.F.A.R.C.S.¹

Halifax, N. S.

As an outcome of the work of MacNally, Neilly and Benoit¹ on suitable techniques and apparatus for the administration of anaesthesia in disaster situations, Cyprane Ltd. of England developed the Haloxair Anaesthetic Machine, for inclusion as standard equipment in the pre-packaged 200 bed hospital units being made available to each Province through the Emergency Health Services Organisation of the Government of Canada. (Fig. 1)

In response to a request to assess the suitability of this machine for emergency situations, it was decided to employ it for anaesthesia for a wide variety of operations. Its use was gradually extended, so that it has now been tested in anaesthesia given to all age groups and anaesthetic risk patients.

An attempt has been made to assess the performance of the machine in trained hands, the ease with which untrained personnel could adapt to assist various phases of the anaesthetic, and the effect of various ventilation patterns on $p\text{CO}_2$, pH, and standard bicarbonate values of blood.

The Haloxair Machine

Halothane is vaporised in a temperature compensated vaporiser calibrated to deliver up to five percent halothane. The inlet side of the vaporiser is connected to a rigid reservoir, open to the atmosphere. Oxygen can be added to this reservoir through a needle valve and flowmeter, delivering up to five litres per minute. The patient breathes in the halothane-air mixture through the inspiratory limb of a standard double anaesthetic hose, Y piece and mask. A non-

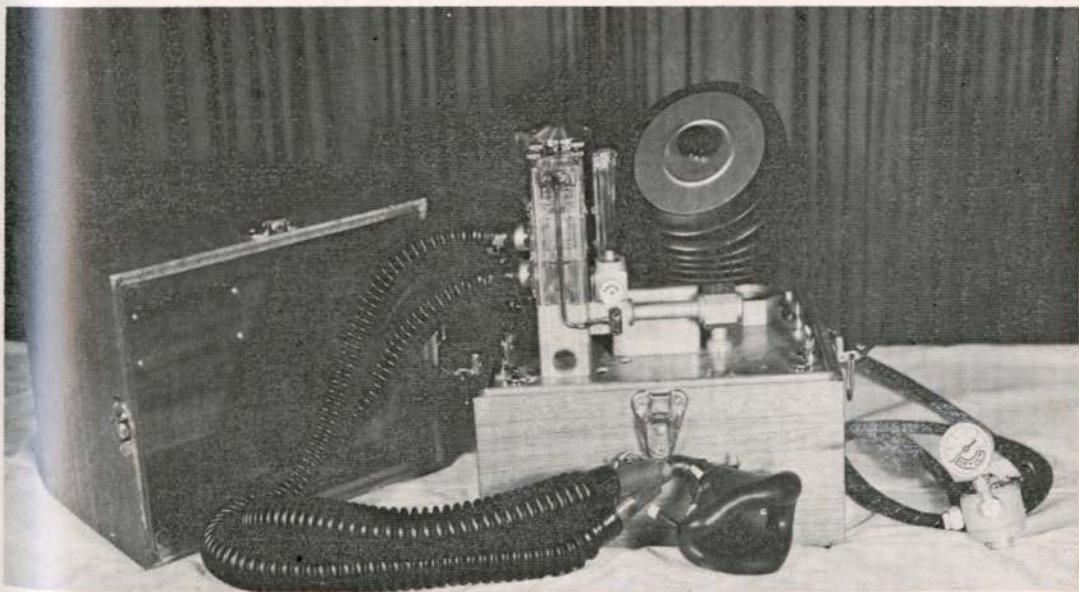


Figure 1. Haloxair Anaesthetic Machine

¹From the Department of Anaesthesia, Dalhousie University and Victoria General Hospital, Halifax, N. S.

rebreathing valve assembly directs expired air back to the machine *via* the expiratory hose, where it escapes to the atmosphere through an expiratory valve. Between the outlet side of the vaporiser and the non-rebreathing valve assembly, a side arm leads to a self-inflating spring loaded bellows. On releasing the spring, the bellows expands, drawing air through the vaporiser. When the bellows is compressed, the positive pressure holds down the expiratory valve, as with a Fink non-rebreathing valve, and the anaesthetic gases can be forced down the inspiratory limb to the patient. This arrangement allows the anaesthetist to assist or control respirations at will. (Fig. 2)

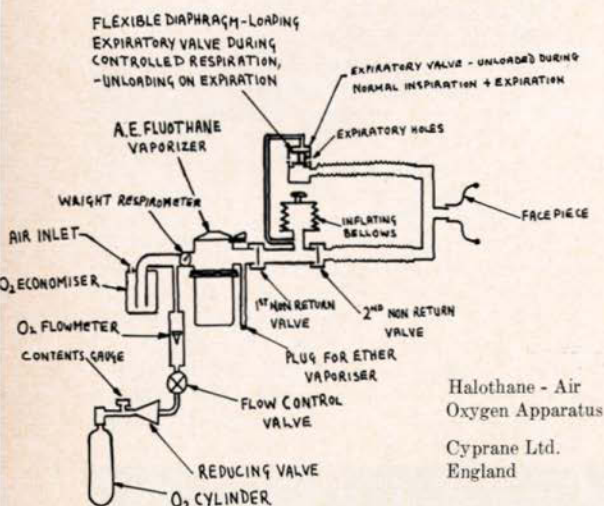


Figure 2. Diagram of the Haloxair Anaesthetic Circuit.

The unit weighs 18 pounds, and is supplied in a hardwood case, 14 inches high, 12 inches long, and 10 inches wide, with storage space to hold all the accessories supplied. The machine comes complete with double anaesthetic hose, Y piece, mask elbow, mask, and mask harness. In addition, there is endotracheal adapter, a short hose and adapters for connecting the machine to the E.M.O. Ether Inhaler, and an adapter to connect the oxygen hose to an industrial size oxygen tank. The total weight of machine, accessories and case is 27 pounds.

Use by the Trained Anaesthetist

This compact apparatus can be assembled for use in five minutes, and when used with standard techniques of induction by thipentone, offers few difficulties in maintaining adequate anaesthesia. Resistance to inspiration increases as the halothane concentration is increased, and is suffi-

cient to cause upper chest retraction in patients breathing vigorously, although MacKay² quotes an inspiratory resistance of 0.9 cm of water at flow rates of 20 litres per minute. As the bellows is spring loaded, movement with breathing is no guide to the adequacy of respiration, which rapidly becomes inadequate if unassisted, with tidal volumes averaging 270 ml. and minute volumes 4.9 L/min. Because of this underventilation, blood pressure and pulse rate are well maintained, and slight cyanosis may develop if 1 L/min of oxygen is not added. If air is used alone to vaporise halothane, it is essential that anaesthesia should be smooth with an unobstructed airway, and without episodes of coughing breath-holding or laryngospasm. Provided that adequate concentrations of halothane are used (approximately 3-5% for induction, and 1.5-2.5% for maintenance), satisfactory anaesthesia can easily be achieved with halothane and air, but is very difficult to achieve with ether and air alone when the E.M.O. Ether Inhaler is coupled to the Haloxair machine. However, when ether-air anaesthesia is preceded by halothane air induction, a smooth transition is easily achieved.

The change to assisted or controlled respiration is readily accomplished with gentle compression of the bellows, and is often followed by a slight fall in blood pressure and slowing of the pulse as adequate ventilation is restored. Because compression is working against the resistance of the bellows spring as well as the resistance of the patient to inflation, changes in the patient's resistance are more difficult to detect. It is possible to hyperventilate to a marked degree, rates of up to 25 L/min. being achieved in some instances, but such hyperventilation is difficult to maintain, and even normal ventilation becomes tiring after a while, because of the different type of movement required to compress the bellows, as compared to the normal hand squeezing movement used to compress a reservoir bag. The difficulty is accentuated by the small size of the knob that has to be gripped to expand the bellows, and by the pressure caused by the raised ring around the knob, so arranged as to catch the anaesthetist's knuckles. These latter difficulties could be corrected by replacing the knob with a raised bar that could act as a hand grip, while an extension hose would allow the bellows to be compressed between the anaesthetist's elbow and chest, and also give him more freedom of movement in checking on the patient and the operation.

After a prolonged period of deliberate hyperventilation, the only method of restoring spontaneous respiration with the non-rebreathing system of this machine is to underventilate. Supplementary oxygen should always be added at this stage to avoid the development of hypoxia.

Provided these characteristics are borne in mind, safe anaesthetic conditions can be provided with this machine, using only minimal amounts of oxygen. Of 113 anaesthetics given with the Haloxair, 58 were for major abdominal procedures, and 32 of the patients were over 70 years of age. There was no mortality due to anaesthesia, and morbidity was confined to expected chest complications in five patients with pre-existing chest disease (two patients with asthma, one with a previous thoracoplasty, and two patients with marked chronic bronchitis and emphysema).

Being a non-rebreathing system, the machine vaporises relatively large volumes of halothane vapour into the surrounding atmosphere, and good ventilation is essential to prevent the anaesthetist and surgeons becoming partially anaesthetised.

Halothane consumption varied from an average of 18.6 ml/hr for spontaneous respiration to 24.8 ml/hr. with deliberate hyperventilation.

Adaptation of Unskilled Personnel

Medical students and inhalation therapy technicians were used as unskilled personnel to maintain various phases of anaesthesia with the Haloxair machine, under close supervision. Using a Wright Respirometer in the circuit, they were instructed to maintain certain tidal and minute volumes on the relaxed intubated patient, after a brief demonstration. After 10 - 15 minutes of instruction, all could perform this task satisfactorily. With further instruction, relaxation could be satisfactorily maintained by having these untrained persons give 20 mg. of succinylcholine at certain specified intervals through a previously established intravenous route.

Maintenance of a steady state of anaesthesia proved surprisingly easy to teach unskilled persons when halothane was used, once basal blood pressure values had been established. Changes required in concentration could be linked to a five or ten mm.Hg. rise or fall in the blood pressure taken by palpation at five minute intervals, and the necessary adjustments were quickly understood.

These three basic manoeuvres of maintaining a steady minute volume, a steady state of relaxation, and a steady state of anaesthesia could be carried out simultaneously by the majority of the unskilled people taught, after 30 - 45 minutes instruction on the relaxed intubated patient.

The induction of the awake patient, intubation, and transfer to a steady anaesthetic state presents an entirely different set of problems for untrained personnel. A rule of thumb technique for the induction of anaesthesia with 2½% thiopentone, which seems reasonably safe, is to teach the giving of four ml. of thiopentone solution every 10 - 15 seconds until the lash reflex is lost. This was readily understood, and well carried out,

but the teaching of venipuncture and the necessary precautions preceding thiopentone injection was more difficult, because of patient variation, and required at least four to seven attempts, and sometimes more, before it could be adequately performed with easy veins. Endotracheal intubation in the completely relaxed patient approached a satisfactory level after eight to twelve attempts, but again, patient variation made this unreliable, and close supervision was required. However, by far the greatest difficulty encountered by unskilled personnel was in the maintenance of the unintubated airway, and in detecting signs of respiratory obstruction. Neither of these skills could be guaranteed even after 12 - 20 hours of instruction, and the induction of anaesthesia down to a steady state without supervision would be extremely hazardous.

The Effectiveness of Ventilation with the Haloxair Machine

As a guide to the effectiveness of ventilation, tidal and minute volumes during anaesthesia were recorded from a Wright Respirometer included in the circuit, and in 21 patients, determinations of pH, pCO₂, and standard bicarbonate were carried out on capillary blood using the microastrup technique. Samples were taken immediately before induction, 30 minutes after induction, and 30 minutes after the end of the anaesthetic. All patients had received a preoperative injection of meperidine (Demerol®) 75 mg with atropine 0.4 mg. subcutaneously from 15 to 75 minutes before the preoperative sample was taken, and depending on the reaction to this medication, pCO₂'s varied from 36.5 mm.Hg. to 47.0 mm.Hg., the average of 40.1 mm.Hg. being within normal limits. pH and standard bicarbonate values of the preoperative specimens showed little variation, and were all within normal limits.

During anaesthesia, the samples showed the effects of the three types of ventilation patterns employed: In the group allowed to breathe spontaneously, tidal volumes averaged 270 ml., and minute volumes 4.9 L/min., and after 30 minutes, a moderate respiratory acidosis had developed, with an average pH of 7.330, a pCO₂ of 51.8 mm.Hg. and a standard bicarbonate of 25.0 mEq/L. In the group of patients who were assisted or controlled to a normal ventilation, tidal volumes averaged 540 ml. and minute volumes ranged from 6.1 to 10.1 L/min., and blood gases remained within normal limits (averages: pH 7.36 pCO₂ 40.8 mm.Hg., standard bicarbonate 23.6 mEq/L.) Where hyperventilation was practised throughout, using tidal volumes ranging from 850 - 1000 ml. and minute volumes of 12 - 25 L/min. a respiratory alkalosis with a moderate metabolic acidosis was present 30 minutes after induction, with pH's averaging 7.33, pCO₂ 22.7 mm.Hg., and standard bicarbonate 17.1 mEq/L.

After these halothane anaesthetics, there was little evidence of respiratory depression 30 minutes after operation with any of the ventilatory patterns. In the spontaneously breathing group, and the group controlled to normal ventilation, pCO_2 's were normal postoperatively, while in the hyperventilated group, respiration returned and remained satisfactory at lower than normal pCO_2 levels, averaging 36.6 mm.Hg.

No metabolic acidosis was seen in the post-operative specimens from the spontaneous respiration group, where the average duration of the procedure was 38 minutes, but a moderate metabolic acidosis was found in the normally ventilated group, after somewhat longer procedures (averaging 53 minutes), where the average pH was 7.315, and the average standard bicarbonate 19.2 mEq/L. In the hyperventilated group, there was a marked increase in the degree of metabolic acidosis noted postoperatively compared to the intraoperative values, the pH averaging 7.218 and the standard bicarbonate 17.1 mEq/L.

SUMMARY AND CONCLUSIONS

The Haloxair anaesthetic apparatus is a compact portable machine, capable of being coupled to an E.M.O. Ether Inhaler, which can be safely used by trained anaesthetists to administer halothane-air anaesthesia, with or without supplementary oxygen, to almost all patients, including the high-risk elderly patient undergoing major surgery. Where halothane anaesthesia is not well tolerated, the switch to ether-air anaesthesia is made easier by inducing the patient with halothane. Because of the respiratory depressant effects of the anaesthetic, and the moderate resistance to spon-

aneous respiration, ventilation should be assisted or controlled to normal values throughout anaesthesia. Prolonged hyperventilation should be avoided unless specifically indicated, since it may be difficult to restore spontaneous respiration without hypoxia, and a moderate to marked metabolic acidosis follows its use.

Since this may be the only apparatus available for anaesthesia in emergency or disaster situations, all physicians should be familiar with the setting up and operation of this machine. In these situations, where circumstances make it necessary to supervise two or more anaesthetics, untrained personnel may be rapidly trained to maintain satisfactory anaesthesia in the relaxed intubated patient, but cannot be safely taught to perform venipunctures for thiopentone, to maintain the unintubated airway, or to intubate the patient without constant close supervision.

Modifications to the selfinflating bellows would make prolonged ventilation easier, and allow the anaesthetist more freedom of movement. A means of measuring the volume of anaesthetic mixture breathed by the patient is a useful aid in maintaining accurate control of ventilation during anaesthesia, and in preventing marked alterations in the pH of the blood, the pCO_2 , and the standard bicarbonate. □

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DOG - DAYS AND DOCTORS

Sleepy summer sunshine and salt caked beer cans,
Soaking up the sunshine with noses peeling red,
Hoping that the patients are all keeping well,
Wishing that insurance men would all drop dead.

The above shows the keen, unwinking vigilance exercised by our office in all matters, (not only that of insurance).

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Vitamin D - Too Much or too Little

M. ELIZABETH CAMPBELL, M. S., P.Dt.*

Halifax, N. S.

As a nutrient, Vitamin D warrants special consideration, for it, unlike other vitamins is not naturally present in foods in amounts sufficient to meet the body's requirement. Consequently, we are dependent on natural and synthetic supplements and chemically fortified foods to satisfy our needs. Vitamin D is required chiefly for normal bone mineralization. By routinely instructing mothers to provide vitamin "drops" for infants, physicians have all but eliminated rickets as a threat to the skeletal development of children in the western world. Recently, however, reports relating certain pathological conditions to excessive intakes of Vitamin D have prompted changes in the regulations which govern the addition of Vitamin D to foods. Such changes necessitate an appraisal of the current use made of this vitamin.

The Need For and Dangers of Vitamin D

The Canadian Council on Nutrition recommends in the Dietary Standard of 1963¹ that infants, growing children and women in the last trimester of pregnancy and during lactation, should receive daily, 400 International Units (I.U.) of Vitamin D.

The exact mechanism of the beneficial effects of Vitamin D is obscure. It has been repeatedly demonstrated to function in the absorption and transport of calcium from the lumen of the intestine and its subsequent deposition into bone². With the parathormone, it functions in stabilizing the blood levels of calcium and phosphate by increasing the absorption of calcium from the gastrointestinal tract, by increasing tubular resorption of phosphorus from the glomerular filtrate and by liberating inorganic phosphate from bones and organic phosphorus compounds³.

Concern over an increase in the incidence of rickets during World War II gave impetus to national programs allowing the fortification of certain foods with purified Vitamin D. In addition, supplemental Vitamin D was made available⁴. In more recent years, many people have become

convinced, and wrongly so, that multi-vitamin supplements are a necessary adjunct to foods presently available. Total intakes can be very large and occasionally have caused hypervitaminosis. The body's ability to store the fat soluble vitamins, permits an accumulation of the excesses of these nutrients until toxic levels are reached. Hypervitaminosis D has been reported most frequently^{4,5}. The majority of cases have been children between four and eight months of age, who received several foods and/or potent pharmaceutical preparations of Vitamin D. Admittedly the toxic doses are large. Intakes of 10,000 to 30,000 I.U. per day over a period of several weeks or months are recognized as being toxic for children of one year⁶. Fomon⁷ recently reported that moderate overdoses (1600-1800 I.U.) do not adversely effect linear growth or serum calcium or phosphorus levels in normal infants. Some authorities suggest, however, that intakes in the order of 2,000 to 4,000 I.U. per day may be toxic to some infants^{1,4}. Certainly levels of 2,000 I.U. can easily be exceeded if Vitamin D is used indiscriminately^{8,9}.

Research on hypervitaminosis D indicates that excessive intakes of the vitamin cause an elevation of serum alkaline phosphatase and a mobilization of calcium from the skeleton,^{10,11}. The liberated calcium is then deposited into the soft tissue. Vascular calcification, cardiac murmurs, aortic stenosis, renal insufficiency and mental retardation with a typical facies have been reported in the more severe cases^{6,12,13,14}. Evidence suggests that some cases of severe infantile hypercalcemia may arise in utero.^{12,13} The possibility that maternal intakes of Vitamin D may play a role in the pathogenesis of this fetal condition should be considered.

Federal Legislation

The Canadian Food and Drug Directorate, concerned about the possibility of overdosage and mindful of the need for some supplemental Vitamin

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D, published in September, 1964, regulations permitting on an *optional* basis, the addition of limited amounts of Vitamin D to the following foods only:

Evaporated and condensed milk, whole and skim milk powder, if fortified, "must contain when reconstituted to their original moisture content not less than 300 and not more than 400 I.U. of Vitamin D per pint".¹⁵

Fresh fluid milks (whole, skim and partly skimmed), if fortified, "must supply not less than 300 and not more than 400 I.U. of Vitamin D per reasonable daily intake"¹⁶ (an amount recognized as 30 oz.).

Margarine and margarine-like products and infant formulae, if fortified, "must contain per reasonable daily intake, not less than 300 and not more than 400 I.U. of Vitamin D."¹⁷

It is to be noted that since these regulations became effective, Vitamin D is no longer available in milk flavorings, breakfast cereals, breads, fruit drinks, etc. Because of its role in the absorption and utilization of calcium and phosphorus, limiting the addition of Vitamin D to milks (and margarines) only, is logical.

Practical Application

Although these regulations do not make the addition of Vitamin D compulsory, in actual fact all canned milks, infant formulae (with the possible exception of some for "special dietary use") and margarines now available in Nova Scotia, contain the added Vitamin. Because of this, infants receiving prepared formula or formula prepared from canned milk should not receive Vitamin D in supplemental form.^{9, 18} These milks and formulae are also adequately fortified with a stable form of ascorbic acid¹⁹ so vitamin supplements to provide either nutrient are unnecessary. However, those infants being breast fed or receiving fresh dairy milk do require supplementary Vitamins C and D. Because the fresh milk produced and sold in Nova Scotia does not, at present, contain added vitamins, once a child on canned formula advances to drinking fresh milk, the need for supplemental Vitamin D (fish liver oil or pharmaceutical preparation) begins. By this time his diet foods (fruits, fruit juices and vegetables) should provide sufficient Vitamin C. The need for supplemental Vitamin D, however, continues all through the years of rapid skeletal development - possibly to 19 years¹. This need may be satisfied by using sufficient amounts of canned milk or powdered milks with added Vitamin D. However, very few of the milk powders available in Nova Scotia contain Vitamin D. Fortified margarine can satisfy the need if four tablespoons (two ounces) are used daily¹⁷. Otherwise, it is recommended that 400 I.U. of Vitamin D (and Vitamin D only) be a routine adjunct to a good balanced diet for young people.

During the summer months, if the skin is

exposed to the ultra-violet rays of the sun for long periods, the need is possibly satisfied by the conversion of body sterols to Vitamin D. As soon as heavier clothing is used and children are indoors (school, etc.) the supplementary vitamin is definitely needed. The Committee on Nutrition of the American Academy of Pediatrics⁶ considers that "an attempt should be made to ensure the provision of the 400 I.U. allowance from ingestible sources on a year-round basis."

Adults

There is no evidence that normal adults with an adequate intake of calcium require any more of the vitamin than is customarily obtained from commonly available foods¹; an egg - 20-75 I.U., a four oz. serving of herring, salmon or sardines - about 300 I.U.²⁰, one tablespoon butter - about 14 I.U.²¹ However, because of the deposition of calcium into the fetus and the loss of calcium in milk, 400 I.U. of vitamin D is recommended for women during the last trimester of pregnancy and during lactation.

Vitamin D In Pharmaceutical Preparations

The Food and Drug Directorate has also specified limits on the amount of vitamin D that may be contained in "Drugs Advertised to the General Public". As of May 1, 1966 all such drugs containing Vitamin D "shall provide not less than 300 and not more than 400 I.U. of Vitamin D in the recommended daily dose"²². Drug manufacturers and distributors are also "advised that proposals for reducing the maximum amounts of other vitamins in drugs advertised to the general public will be distributed in the near future."

Recommendations

In summary then, we must be careful to balance our use and recommended use of Vitamin D with the physiological requirement. Many hospitals and physicians may have to change their practice of sending "newborns" home on both fortified formula and "drops". Such a practice is, at best, wasteful and more important, potentially harmful. Cochrane²³ emphasized this point when he recently reviewed the possible hazards of excessive administration of Vitamin D and certain other nutrients during prenatal and neonatal life. However, for those "growing persons" not receiving 400 I.U. of Vitamin D from the fortified foods mentioned, a supplement of Vitamin D (fish liver oil or pharmaceutical preparation) is recommended as part of a good and well balanced diet.

Now that federal legislation permits the addition of Vitamin D to fresh fluid milk, it is important that we encourage the fortification of milk produced and sold in Nova Scotia. With this accomplished, the unpopular necessity of taking fish liver oil or other supplements will be eliminated and more children will be assured the benefit and safety of proper intakes of Vitamin D.

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Health Insurance

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Viewpoint: The key questions relate to what controls should legitimately belong to the plan or the medical profession. Professional review represents the cornerstone of quality care.

Medical care insurance for the Canadian people is an issue of a highly controversial nature, interwoven with complex problems of which perhaps the least has to do with the simple act of paying the doctor.

It is important that we try to understand what the people of Canada want, what the problems of the medical profession are or may be in relation to these wants and how these may be effected as governments move further and further into this field.

The right to medical care is being increasingly accepted as a fundamental right just as it is the right of every child to secure an education. As the Honorable Judy LaMarsh, Minister of National Health and Welfare, stated in a recent address, "In Canada today there is a desire on the part of all segments of the community, including the medical profession itself, to see that everyone, regardless of age, condition, status or pursuit, is assured of all necessary health services without unduly heavy financial burdens. The question before us all at this time, therefore, is not whether we need health insurance, but by what means we should proceed toward the ultimate goal."

The crux of the question in the public mind is that medical care costs in an illness, however long its duration, must reasonably be assured to all segments of the population. Factors associated with such arrangement are not, in the public mind, as important as the principle that *an arrangement be made*.

Unfortunately however, the answer is not that simple. The particular method or methods eventually adopted may have a great deal to do with such matters as the availability of doctors and other professional personnel, quality of health care, and the general economic and social aspects of the program. After all, no "entitlement card" or financial arrangement is of much help to the individual if there is no doctor available and willing to accept him as a patient and competent to treat him. We must

therefore, look at more than the simple act of paying the bill. It is within the context of these further issues that the real difficulties arise.

First, let us examine the existing situation in Canada regarding the extent of medical care coverage: At the present time the doctor-sponsored plans cover some 5½ million Canadians, or about 27 per cent of the population. The insurance industry is estimated to cover five million. Independent and co-operative plans a further three quarters of a million. These represent more than 11 million persons covered under voluntary auspices. If you add those public programs in Saskatchewan and other places, the extent of coverage represents about 65 per cent of the population.

It is quite true that not all these programs can be termed adequate, but as people have gained an increasing understanding and appreciation of the value of good coverage, both benefits and the programs themselves have improved steadily.

It is also true that there is a hard core among the unprotected for whom the task of providing coverage is difficult and the results limited. Included here are the aged, the unemployed or part-time workers and others in the low income groups. For such persons financial assistance from government has been deemed necessary to make health services on a prepaid basis universally available to all the population.

In 1962, the first government medical care program that we might note was established in the Province of Saskatchewan. Compulsory in nature, applicable to the entire population and covering the full range of physicians' services, this plan was limited in the authority allowed the medical profession to participate, in keeping with its position and experience. The evidence suggests however, that some facets of the arrangement as originally established were somewhat extreme and minor amendments have gradually been coming into effect which have improved the relationship between the practising doctors and the government service.

In looking elsewhere, it may be noted that in

¹Executive director, Trans-Canada Medical Plans.

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Alberta, where a new program went into effect a year later, the government sought the support of doctors, prepaid plans and insurance companies. In doing so, government clearly showed its intention to confine its activities to financial assistance only, directed to the low income group of citizens, and, to ensure that coverage was made available to "poor risk persons."

Apart from this, the great majority of citizens were left with the freedom and responsibility to purchase their own medical insurance from any prepaid plan or insurance carrier approved in accordance with regulation established. It was also left to the medical profession and the voluntary carriers to accept the major share of responsibility for the provision and development of the necessary services.

In Ontario it would appear that a program somewhat similar to Alberta is contemplated.

Most recently the government of British Columbia also determined to provide a program somewhat similar in nature to Alberta. One difference however, between the BC Plan and that in Alberta, is that the former proposes to confine its approved carriers to those plans of a strictly non-profit nature who make their coverage available in the province to all segments of the population.

Most recently, an announcement by the premier of the province of Quebec that he will appoint a committee to prepare a complete plan of health insurance for that province, points up further the general acceleration in the establishment of provincial medical care programs.

Apart from these activities at provincial level, we also have the Report of the Royal Commission on Health Services. Released in mid-summer of 1964, and containing some 200 or more recommendations, the Report was seemingly intended to be something of a blueprint for the development of a general health plan in Canada. As such, it covers many areas of interest.

In that many of the recommendations point up the desirability for more doctors, more para-medical personnel, and more educational and training facilities for health personnel, they portray needs which most people generally agree with. The fact however, that these basic facility needs become considerably more acute when predicated upon the establishment of a national health plan, and represent a needed investment build-up of possibly 500 million dollars, has not been lost upon either the federal or provincial governments.

The main feature of the Report is the recommendation that there be a universal compulsory plan of medical care insurance, to cover all Canadian citizens for all forms of physicians' services for physical and mental illness. Eventually, it would also include dental care, drugs, prosthetic appliances, and certain other services. That this

recommendation involves, entirely apart from the cost of increased facilities, a transfer of hundreds of millions of dollars from the private to the public sectors of our economy, raises problems of tremendous economic importance which directly effect many other facets of our economy.

The medical profession has disagreed with the Royal Commission on the pattern of its proposed plan. In so doing, the profession has stated its opposition to a universal, compulsory, tax-supported, government-operated system of provincial health insurance. It has argued that health services would be in a straight jacket and the doctors' professional freedom would inevitably be subjugated under the crushing omnipotence and impersonality of government operation where such matters as health care must, in budgetary allotments, compete with roads, education, public safety and other public needs.

They also object to the Commission's recommendations for a second reason. Namely, that if implemented in the immediate future, with the current shortage of professional personnel and facilities to provide services, the end result would definitely have a detrimental effect upon the present quality of service.

In place of the proposed plan, they have suggested that a preferable approach be provided through the voluntary mechanism, with multiple carriers, and with aid from tax funds for those who need financial assistance.

Now, what has been the attitude of the federal and provincial governments? As the Canadian Tax Foundation pointed out in its August *Journal*, "The most important result of the Royal Commission on Health Services - recommending establishment of a government-operated, comprehensive, universal personal health service - has been to rivet attention on the longstanding need for Canadians to set an order of priorities for their goals of human betterment and improved standards of living. In one stage or another, Canada now has before it three major demands involving sizeable costs and/or shifts of funds and functions from the private to the public sectors - education, health and pensions. Fortunately, it would appear that even the most fervent advocates of spending more of our resources in these areas are impressed with the fact that some hard, unpleasant choices will have to be made."

Because of these facts, government at both federal and provincial levels have been less than enthusiastic in urging any early adoption of such recommendations. In this respect, the decision of a joint committee of the federal government and provincial premiers to examine federal-provincial taxation problems and to give consideration to some system of priorities regarding funds for education, pension and health insurance needs, is one which most people would generally support. Insofar as

the present government in Ottawa is concerned, we must recognize that it did not set up the Commission and therefore, following political reasoning, is not necessarily bound to its recommendations. The present government was, however, elected on a promise to introduce a plan of national medical care insurance. For this reason therefore, this government is committed to getting something underway. When would be purely a matter of conjecture, but at least the wheels will be moving in that direction.

Now what kind of a plan might be feasible? We believe that some of the observations of the doctor-sponsored plans, based on 20 years' experience, might be applicable. In its submission to the Royal Commission on Health Services, Trans-Canada Medical Plans, as the national organization which coordinates the efforts of those prepaid medical plans throughout Canada, suggested that any such plan must be (a) medically sound, (b) socially sound, (c) economically sound, and (d) administratively sound.

To be medically sound, a plan should provide all those physicians' services that contribute to diagnosis, treatment and prevention of ill health and rehabilitation, or, stated otherwise, to the maintenance of health. Also, a plan should support all measures that contribute to the improvement and maintenance of the services at the highest level. In particular, one of the preventive aspects of good health care which deserves far more attention than it usually receives, is easy access to the physician as a step toward early diagnosis and early treatment.

With respect to the qualitative attributes of medical soundness, no medical plan can assure a higher level of service than the medical profession in its area is prepared to provide. Medical plans should assist organized medicine in its educational efforts to improve quality as well as in the professional policing efforts towards the same end. Medical soundness has only a loose relationship to the form of medical practice, there is no form of practice which automatically achieves and assures a high quality of care. In both group and solo practice, the physicians must strive for constant improvement. To the degree that a medical plan provides access to all services, it contributes to the complementary associations between physicians in group or in individual practice.

Freedom in the choice of physicians by subscribers and subscribers by physicians is a desirable attribute of a medical plan. In medical care it is assumed that a satisfactory interplay of physician and patient confidence, interest and concern, enhances the health value of services.

Social Soundness may be measured by the percentage of people in a specified area who are given access to health services through the insurance mechanism. The ideal is reached when health services are accessible to a total population. While a favorable public opinion and strong public support

are the most reliable criteria of social soundness, they do not lend themselves to easy evaluation. They do however, represent strong evidence to that effect.

To be economically sound, a plan should conform to two general economic specifications. It should fit the economy of a people without imposing an excessive financial burden, and it should produce reasonably adequate compensation for the personnel that provide the services. It is the nature of the economy of Canada that the incomes of people show wide variability. In every province there are some with no income, some with low income, and, some with high income. The facts of wide differences in levels of incomes of individuals and families, combined with the uneven incidence of medical needs, render inevitable the adoption of varying financial arrangements to cater to the needs of different sectors of the population. If equality, in the sense of providing every Canadian with the best possible care, whatever his needs, is socially desirable, it does not imply uniformity of economic arrangements to meet this objective. On the other hand, it would seem reasonable that it implies assistance where needed in a manner consistent with preservation of human dignity, and the maximum of personal freedom without destroying personal responsibility.

Finally, there is the question of *administrative soundness*. Here, control devices are a normal part of medical plan administration. Some are directed at the control of unwarranted expenditures of the plans' funds, others at the improvement of services.

The single most important factor in the physician-sponsored plan is the nature of the contractual agreements entered into between the plans and the physicians of their area by which the public are able to obtain "service benefits". Service payment to a physician is an *agreed upon* payment for a service rendered. In the large percentage of medical cases for the services of the family doctor, the services payment is the total payment and no extra billing is permitted. For a sizeable percentage of the population in the lower income categories, a fixed payment is a desirable economic need.

In the organizational arrangement of all physician-sponsored plans, the board of directors are, in all cases, drawn from the professional groups providing the services and the public receiving such services, thus both the profession and the public share the benefit of representation.

The extent of physician support for such plans must be credited largely to this arrangement. The physician's traditional fear of regimentation, whether by government or a third party, is largely removed through participation in and determination of policy. Doctors are assured of having their problems judged by committees of their own peers and have some source outlet for grievances if any. They feel therefore, less fear of interference in the exer-

aise of professional judgment and greater assurance that the arrangement will be fair to both patient and physician.

In any medical care plan which may be established, the key questions relate to what controls should legitimately belong to the plan and which should be the prerogative of the medical profession. Whether public or private, to maintain the program and accomplish its purposes, the plan requires both *administrative and professional control*.

Administrative controls cannot stand alone. Once standards and policies have been adopted, the plan must rely not only on administration, but professional review to make sure that they remain effective. *Professional review of professional care represents the cornerstone of quality care.*

The key person in the system therefore, is the physician. He not only provides the basic service, but he is the necessary intermediary to most other services. He is involved in utilization, cost and quality. A basic objective therefore, must be the creation of arrangements in which maximum play is given to the operation of professional criteria, professional incentives and professional goals. On the other hand, professional personnel must be responsive to administration needs and objectives while maintaining autonomy in the care of patients.

Perhaps the major weakness of the Saskatchewan Plan, when first implemented, was seeming inability of the sponsors to understand the importance of professional control as integrated with administrative control. They chose to ignore the former and rely completely on the latter. As previously mentioned, subsequent developments in the province would seem to indicate that such fundamental error is, in part, being corrected by co-operation between the parties concerned. It is also this particular factor in the Commission Report which does not seem to have been given sufficient recognition in the philosophical approach to the proposed program.

Reviewing key principles of a suitable plan for the future:

1. Such plan need not be compulsory. Already approximately 65 per cent of the population is covered, mostly under payroll groups. Existing employer welfare plan agreements which govern the pattern of health insurance coverage for most of the working population, should be left alone as they represent attention to individual needs at the level which a government-imposed program would not greatly add to. The only main difficulty lies in the area of financial inability for the individual outside such groups. For these people, financial assistance is clearly needed. With adequate assistance from government, there needs to be no question of compulsion to make the plan socially sound. The public today is well aware of the value of comprehensive medical insurance and tend to purchase it as they do the other necessities of life. Compari-

sons between certain plans of compulsory or voluntary nature involving substantial government assistance, point up the soundness of this statement

2. A second basic principle relates to the status of the medical profession. A fundamental error of the Hall Report is its proposal to force all doctors to practise within the plan. While not spelled out in this manner, the requirement that any patient obtaining services of a doctor practising outside the plan shall not be reimbursed from the plan, clearly creates such a situation and represents an arrangement contrary to that followed by the profession-sponsored plans. From long experience such plans have found that the vast majority of the profession willingly participate, while a very small number, for one reason or another, prefer to remain outside the arrangement. In these cases, such doctors deal directly with their patients, who in turn, are reimbursed by the plan. Here again, compulsion which so often is deemed to represent efficiency, only antagonizes.

One final element relative to administrative soundness is that the contribution of the subscriber shall, in the maximum degree, be directed toward the purpose intended, namely the payment of his medical needs. To this end, overall retention costs should be low and compare favorably with the estimates of the Royal Commission in this respect.

In summary, it is difficult to justify the scrapping of a proven sound system of financing medical care for an estimated 65 per cent of the population. Admitting the urgency of providing sound financial programs for the remaining 35 per cent, the most practical approach would be to make available to the individual on a subsidized basis, with special help to the low income group, a program of comprehensive medical care insurance comparable to the standard available to the balance of the population. □

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ARNOLD LOGAN

Halifax, N. S.

Now what in the wide world does a layman writer have to contribute to the columns of a medical journal?

Perhaps very little. But I am going to write something and unlike my previous articles it won't be about my "condition" - diabetes. Incidentally, my last article on that subject was rather well received by some of you readers and, basically, that is my reason for writing this one.

First you should know I am a former newspaper reporter and editor of 20 years' experience, then you should know that for the last 15 years I have been a salesman "in the field" of Nova Scotia's only doctor-sponsored voluntary medical plan. In other words I brought 20 years of trained observing to the position, and if you add to that 15 years' experience as a trained listener to literally thousands of Nova Scotians on the subjects of medical plans and doctors then, perhaps, the more charitable among you will condone this invasion into your official publication.

A final prefatory remark at the risk of making this preamble too lengthy: I feel I should state here my object is not to write an apologia on the doctors; I am not writing this for money - the Nova Scotia Medical Bulletin "pays me off" with two copies of the issue in which my articles appear. I'm writing this to make you, my bosses (each of our participating doctors is a boss of mine) "feel good". Heaven knows, you should be receiving SOMETHING with a tranquilizing effect.

Practicing medicine? No, I'm merely making a small payment on a large debt diabetics owe doctors.

Very early in my career with The Plan I learned I could believe just about one-tenth of one percent of what laymen say about you doctors. I think I began to suspect the accuracy of their words after listening a few dozen times to two statements my prospects make of a doctor - the SAME doctor:

1, "I wouldn't take a cat to him!"

2, "He's the best doctor in town!"

(It probably isn't significant, but lately there seems to be a variation: 1, "He killed my mother!"; 2, "He was the only doctor who could save my mother!")

Despite this, I, honestly, am still not sure the "doctor image" IS dwindling. Despite the fact there is now no economic need for you to make "home calls" around the supper hour; despite your envy-arousing new cars, your "trips to the south".

It's true many laymen compare you unfavorably with "ol' Doc, Jones", an elderly doctor who would spend countless hours at the bedside of a pneumonia patient, or, when a youngster developed diabetes, would gather the relatives around him as he sat cosily on their front door stoop, to tell them the sad news. Boy, what an image HE could build up! Oh yes, he was usually a gruff old man. For a time I used to believe that only gruff old doctors were good doctors, then the reason for their gruffness occurred to me. As a class, doctors are kindly persons; who wouldn't be gruff when the only treatment they had for patients suffering a number of diseases was the holding of a hand.

Here's my first tranquilizer:

The vast majority of your patients COULDN'T CARE LESS how rich you become, just as long as you, on your way to the bank, continue to be able to grant them (lying on their "sick beds") a minute or so of your time. Most of them know that medical science has enabled you to treat them, successfully, for almost all of their ailments.

This is your second tranquilizer:

You may forget, or dismiss as worthless, most of the tripe written by some laymen regarding the fact you are not treating the WHOLE PERSON. Only healthy laymen writers (most of them representing pressure groups) write in this fashion. Otherwise they'd realize after a visit or two to your waiting room you had better not treat the whole patient, or they'd never get in to see you.

I did considerable research before I decided on your next tranquilizer:

Those who can afford to pay for a voluntary medical plan DO NOT WANT SOCIALIZED MEDICINE. When I began to hear this a few

years ago from an ever-increasing number of subscribers and potential subscribers, I "perked up my ears". Drawing on years of experience as a neutral observer and making sure the fact I represented a voluntary medical plan wasn't unduly influencing my "listening", I convinced myself only those who can't afford to pay for a voluntary plan (that minority in the very low income bracket) WANT socialized medicine.

None of us has to be a particularly intelligent person to realize we don't have enough doctors now; that socialized medicine will mean still more over-crowding in doctors' waiting rooms; that less and less of the "whole person" will be treated. And, after forcing doctors to become civil servants I can just see our young people clamoring to get into medical schools.

"Nova Scotia is fortunate in having especially good doctors". I'm not saying this, I'm quoting it. I know nothing about medicine; can't remember, matter of fact, whether you stuff a cold and starve a fever, or if it's vice versa. I'm quoting a doctor.

A few months ago, during a visit to Toronto on my holidays, I "took sick". Self-diagnosed it as a touch of asthma. (I wasn't right, by the way). Anyway, I went to a druggist for one of those off-the-shelf remedies; couldn't see myself sitting all day in a strange doctor's waiting room. The druggist listened to an account of my symptoms and thought I should see a doctor.

"I'm a stranger here in Toronto," I yelped. "I don't know any doctors."

Well, after several telephone calls, the druggist got a doctor who agreed to "squeeze me in", so I went to his office and after a long wait in his crowded waiting room, I got in to see him.

I was examined and my "trouble" was diagnosed.

"Hmmmmm", said the doctor as he wrote a few details for his records, "come from Halifax, eh?"

He went on to tell me he had spent some years in the Hospital for Sick Children in Toronto when he was a younger doctor.

"My", he sighed, "I would certainly like to be starting out all over again in that new children's hospital you people are going to get." Yep, he knew all about Mrs. Killam's bequest. What really surprised me, however, was the fact he knew a cool score Nova Scotia doctors by name.

He noticed my surprise.

"Oh," he said, "Nova Scotia is fortunate in having especially good doctors; we have no hesitation in sending any patient there for treatment."

That's just a small tranquilizer, "thrown in".

I wouldn't want you readers to believe I am so naive I am not familiar with the stick with which

some laymen writers tar you. I'm just not too interested in what they have to say because none has provided an answer to the growing shortage of doctors in the face of an explosive, demanding population.

So far as I know, not many surgeons remove a diseased kidney without realizing it's the only one the patient has left. All the doctors with whom I've dealt, look like doctors, talk like doctors, and they have a parchment on their walls to prove they are doctors. They all tap me on the chest, make me cough, dig me deep under the lowest rib and take my blood pressure. I'll accept treatment from any doctor, knowing that, in Nova Scotia at any rate, he didn't receive his license from a correspondence school in southern U.S.

I do know I have a great fear that if we force socialized medicine down the throats of our doctors, the line-ups into their offices will extend to the sidewalk.

Most Nova Scotians would vote against socialized medicine, and I think the government will be well-advised to conduct a plebiscite on the question the next time a provincial election is held. I think there is a growing appreciation among our politicians of the dangers inherent in saddling the public with it. I imagine the fact the Saskatchewan government was kicked out by the electorate the first time it "went to the people" following the imposition in that province of socialized medicine, and the fact Prime Minister Pearson who used it as his number one plank, didn't fare so well at the polls recently, didn't go unnoticed by not only politicians but by members of pressure groups as well.

Of course there's an answer. Let's make it a law that all females over a certain age MUST use "The Pill". The world won't last very long, but we won't need schools. Indeed the Pill can be just as effective as "The Bomb", can't it? Might have enough doctors, then, to "go around" by sending obstetricians, gynecologists and pediatricians back to medical school to become geriatricists. □

General Practitioner Wanted

"General Practitioner wanted in the Town of Port Hawkesbury, Cape Breton, N. S. A good opening for a third G.P. in a growing town and large surrounding area. Interested party may write c/o P.O. Box 339 or 399 Port Hawkesbury, N. S."

Public Health News

Live Births and Rates Nova Scotia and Canada

Year	Nova Scotia		Canada	
	Number	Rate	Number	Rate
1962	19,432	26.0	469,693	25.3
1963	18,976	25.1	465,767	24.6
1964	18,313	24.1	452,915	23.5
1965	16,620	21.3	422,997	21.5

The Birth Rate

The number of live births registered in Nova Scotia to May 31, 1966 was 5,618. The number registered for the same period in 1965 was 6,188. The birth rate in Nova Scotia reached an all time high of 28.6 in 1954. Since that year there was a gradual drop in birth rate. As seen in the table this drop has become more precipitous in the last three years.

Venereal Diseases

In Nova Scotia, as well as in Canada and other countries of the world, we have not succeeded in controlling venereal disease. More serious than this is the fact that the incidence rates of these diseases show an upward trend over the past few years. Figure 1 shows a remarkable similarity in the trend of syphilis in widely separated countries. In some, the reported incidence has approached or even exceeded the maximum of the years immediately after the second world war.

The similarity in trends in so many countries is not surprising in view of the great volume of international traffic to and from large cities where the main reservoir of cases is found. Canada exchanged contact information with 13 states and 24 cities in the U.S.A. in 1964.

Figure 2 shows: The relative contribution made by various age groups to the total number of syphilis cases reported in Canada in 1963. These percentages show no appreciable difference from those of the past two years.

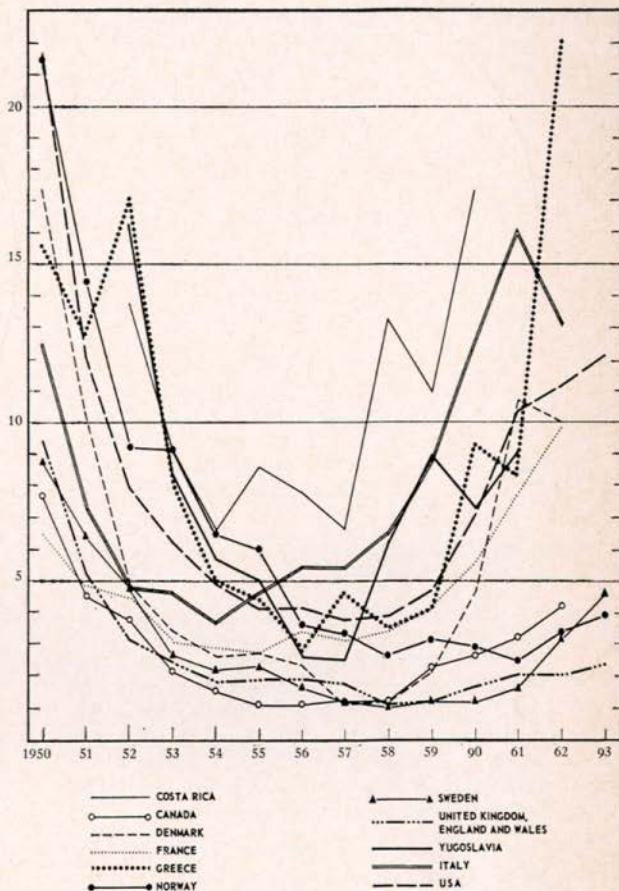


Figure 1. Incidence Trends of Venereal Syphilis in different countries.

Figure 3 shows: The relative contribution made by the various age groups to the total number of gonorrhoea cases reported in Canada in 1964. Again the percentages show no appreciable difference from those of the previous years.

Figure 4 shows that the rates of syphilis in males for all age groups except ages 1-14 and 15-19 are higher than the rates for females. This pattern has not changed in recent years and is probably due to several factors: the greater aggressiveness of the male, the anatomic differences making the disease more readily diagnosed in the male. In addition, homosexual practices continue to play a significant role in the spread of infectious syphilis in many metropolitan areas. Recent Canadian

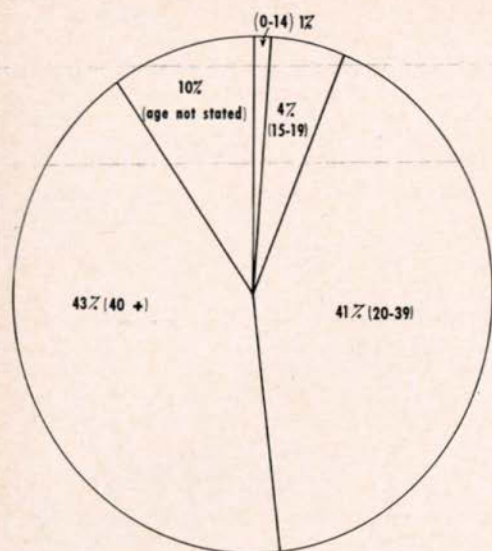


Figure 2. Percentage of Syphilis cases reported by selected age groups Canada 1964.

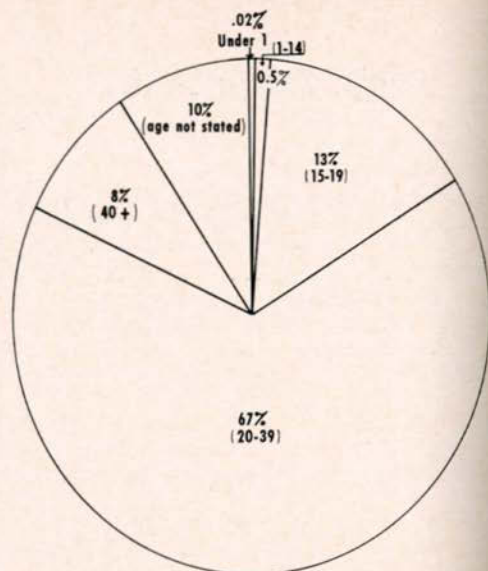
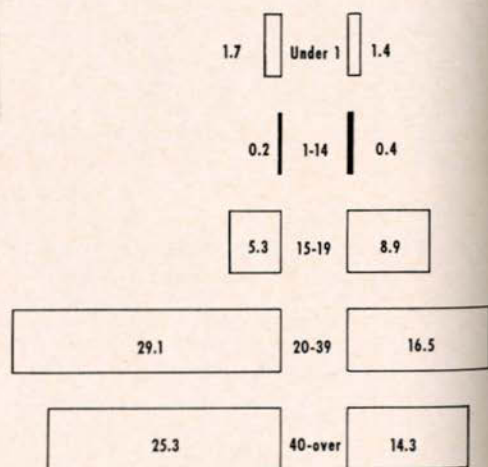


Figure 3. Percentage of Gonorrhoea cases reported by selected age groups Canada 1964.

statistics on the mode of transmission are not available, but may parallel trends in the United States where, in 1963, thirty-one states reported a total of 1,621 males with infectious syphilis who named male contacts. (This is a joint statement by the Association of State and Territorial Health Officers, American Venereal Disease Association, and the American Social Health Association).

In Nova Scotia in 1965 we had reported 160 cases of gonorrhoea for a rate of about 21 per 100,000 population. This was well down from the rate of 67.6 in 1964. In 1966, to May 21, however we have had reported 142 cases, or almost as many as for the total year 1965. The picture for syphilis is similar. □

Figure 4. Total Syphilis by sex and selected Age groups (Age specific rates per 100,000 population Canada 1964.)



Fee Discounts Hurt You and Your Plan

You subsidise commercial insurance companies when you accept from them as payment in full something less than your normal fee for medical services rendered. This allows commercial insurance to take away low risk groups from your own doctor sponsored plan, Maritime Medical Care.

MMC is left with the high risk groups that commercial insurance will not cover, making it less competitive and forcing the premiums up.

Remember: - Bill the patient for the remainder of your fee, then show him how Maritime Medical Care Insurance would do away with extra medical bills.

2nd Meeting

The Council of The Medical Society of Nova Scotia

113th Annual Meeting

Place: The Lord Nelson Hotel, Halifax

Dates: Friday November 25th and Saturday November 26th, 1966

Clinical Programme: Dalhousie Refresher Course November 21st-24th inclusive

The Meeting of Council will be extremely important. The Medical Insurance Advisory Commission is to report to the Government of Nova Scotia not later than December 31st, 1966. The Physicians' Services Insurance Committee of the Medical Society of Nova Scotia had its first meeting with the "Planning Commission" on July 21st. Meetings are being held every two weeks - The Physicians' Services Insurance Committee report to Council will be one of the 30 Committee reports to be presented.

Members of Council will be notified during August. In addition to these official representatives of the Society, every member of the Society should make a note of this important meeting.

Plan to include the Clinical Sessions as well as the Meeting of Council and the Annual Meeting.

Housing application forms will appear in the September issue of the Bulletin.

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patients on restricted diets those who have faulty absorption convalescents the chronically ill any other patients whose condition predisposes to low vitamin intake or to increased vitamin requirements

Each sugar-coated tablet contains:

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Pyridoxine hydrochloride	1 mg
Vitamin B12	1.5 mcg
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DOSAGE: For prophylaxis: one or two tablets daily. For therapeutic use: one or two tablets three times daily.

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FORTY YEARS AGO

From the Nova Scotia Medical Bulletin

August, 1926

CRETINS.

An Etymological Note.

Gibbon speaks of the bitter intolerance of the Arian Goths of Africa and Spain and of the savage persecution inflicted upon their Athanasian subjects. One reads of a Catholic princess of Spain being "pulled about by the hair, inhumanly dashed to the ground, kicked till she was covered with blood, stripped naked and thrown into a pond," of the persecution and murder of her orthodox husband and of the allegiance to their belief of thousands of victims, which was strong enough to raise them to the heights of martyrdom in greater numbers, perhaps, than has ever been known in all the history of that devoted passion.

It may easily be understood that, although the Goths eventually became converted to the orthodox creed, still the memory and shame of the Arian persecution could not soon be forgotten. Still bearing the odium of their Arian misdeeds, these Spanish Goths at the time of the Moorish

invasion were driven to seek refuge among the isolated glens of the Pyrenees. There they were called 'Christaas' (and in France 'Chritiens') to distinguish them from Jewish and other fugitives.

Hated by the Saracens and despised by their orthodox and Jewish neighbours, they were compelled to live apart. Isolation, confinement in narrow valleys, poverty and intermarriage were as potent in ancient times as in the present to produce the degeneracy and idiocy which resulted with great frequency among them.

Some abbreviation of their name, some looseness of observation and transference of terms has resulted in the name "Cretins" being applied to that type of idiocy commonly seen in the Swiss Alps. And so, strangely enough, it happens that these unfortunates bear a title of shame acquired by the Gothic conquerors of Rome. So, too, in the use of this name some twelve hundred years later does Modern Medicine recall to us the story of this ancient clash of race and creed. □

Vitamin D — continued from page 202

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Personal Interest Notes

Those of us who attended the first summer meeting of The Nova Scotia Medical Society at Digby Pines during the first week of July know how successful it was and how the weather man played along extremely well. Those of us who were not there were glad of the excellent coverage in the daily press.

Two of the doctors who weren't there provided "news" on their own when in the "line of duty" they sailed out three miles in a motor yacht to pick up a young seaman from a tanker who had severely punctured his lip with a meathook. The yacht belonged to Dr. Balmanno and with him was Dr. Milton O'Brien.

Of course we were told by Halifax lawyer, Mr. R. A. Kanisberg that "there are no worse witnesses who appear on the stand". However various suggestions were made to overcome this fault.

Sydney's Dr. Brennan who has during the last winter been giving so much of his time to youth in that area on the subject of saner sex must be glad of the panel discussion whose members stressed the need for a "broad, realistic and sympathetic sex education programme." Dr. Still was panel chairman and with him were Drs. F. A. Dunsworth, Kenneth Grant and Dr. N. G. Glenn. The illegitimacy rate in Nova Scotia is the highest in the Dominion - with Halifax doubling that. Interesting at this time is to learn of a pilot project in sex education carried out by Mrs. Sharon A. Oliver, B.N. (Ed.), a

public health nurse from the Kentville office of the **Fundy Health Unit** and the medical Director, **Dr. G. M. Smith** at the request of the school principal at King's County Vocational High School. The study consists of about 25 pages with an appendix giving an outline of the course and a most interesting list of sample questions asked in class. (During the war, the girls of Queen Elizabeth High-School in Halifax had a short series of lectures on "Sex and Sense" in their general course of Nutrition which they took instead of something to do with plane spotting etc.).

Halifax hosted the first joint meeting since 1958, of the Canadian Paediatric Society and the New England Paediatric Society from July 11-13 with over 200 in attendance. Dr. W. A. Cochran of the Children's Hospital Halifax is the Canadian president. Guests speakers included **Dr. Ettore Rossi**, Berne, Switzerland, **Dr. Otto Wolff**, London England, and **Dr. John Gerrard**, Saskatoon.

The first class of **Inhalation Therapists** graduated from the Victoria General Hospital recently. It consisted of one young woman and five men from all parts of the province such as Lunenburg, Windsor, Halifax, Amherst and Sherbrooke. **Dr. Paul L. Landrigan**, director of the school, **Dr. G. M. Bethune**, hospital administrator and **Dr. Ian E. Purkis**, of the Department of Anaesthesia took part in the exercises.

Dr. J. Fraser Nicholson, Halifax is the new president of The Nova Scotia Society for Crippled Children and will also be chairman of the Easter Seal organization medical advisory board. **Dr. G. LeBrun**, Bedford has been elected to the executive.

At the June meeting of the American Association for Thoracic Surgery in Vancouver, **Dr. John J. Quinlan** surgeon on the full-time staff of the Nova Scotia Sanatorium, Kentville, was promoted to active membership in the association. This was a signal honour as there are only three other such members in the Atlantic provinces. **Dr. V. D. Schaffner**, Kentville, surgeon at the N.S. Sanatorium since 1934 is the other Nova Scotian. Dr. Quinlan's election was based on recognized ability as a thoracic surgeon. He holds certification in that specialty from the Royal College of Physicians and Surgeons of Canada, and is also the author of over 25 scientific papers which have been published in various medical journals on this continent.

Dr. J. E. Hiltz of Kentville has taken over the presidency of the St. John Ambulance Association of Nova Scotia from **Dr. C. B. Weld**, who has held the office for a number of years and now has been elected Honorary President. **Dr. J. E. H. Miller**, Halifax was elected vice-president and provincial commissioner in charge of brigade service and **Dr. W. A. Condy**, Halifax was named vice-president and director of association training. **Dr. C. M. Harlow**, Halifax is provincial surgeon. To the executive were elected **Dr. T. E. Kirk**, medical superintendent of Camp Hill Hospital, and **Dr. J. H. Haldane**.

The newly elected president of the Cape Breton branch of the Order is **Dr. Robert Mathieson**, Sydney. This is his third year in office. The medical adviser is **Dr. G. Lorway MacLellan**. On the executive is **Dr. D. S. Robb**. The Cape Breton Branch

won national recognition this year when the **T. S. McLanders nursing division** team won the national women's first aid competition. **Dr. C. B. Weld**, retiring provincial president accepted the Sir George Burn Trophy from the hands of Mr. A. A. Crawley, Chancellor of the Order.

The official list of Honours for 1966 include the following names.

Commander - Brother - Promotion - **Dr. Joseph Earle Hiltz**, Kentville.

Officer Brother - Promotion - **Dr. Charles Mortimer Harlow**, Halifax.

Officer Sister - Promotion - **Dr. Roberta Bond Nichols**, Halifax.

Serving Brother - **Dr. James Bernard Tompkins**, Dominion, C.B.

For services rendered in the field of instruction in First Aid an Honorary Life Membership in the Order was awarded to **Dr. J. L. Sutherland**, Lockeport.

Two Halifax doctors were guests of honor at a special stag dinner held recently at the Saraguay Club by the Halifax Infirmary Medical Staff. **Dr. James D. Gray** chief of pathology at the Infirmary since 1954 was honored on his retirement with a special citation and the presentation of a silver cigarette case. Dr. Gray leaves shortly for England.

Dr. J. W. MacIntosh, consultant emeritus at the hospital since 1961, was presented with a photograph and inscribed brass

plate and a citation paying tribute to his 36 years of service.

The 40 members present from the medical staff paid special tribute to the memory of their late associate, **Dr. Judson V. Graham**. **Dr. Donald V. Graham**, son of the former chief of surgery and a member of the Anaesthetic staff accepted a photograph and brass plaque on behalf of his family. Dr. Judson Graham was attending physician at the Infirmary from 1915-1930; associate surgeon from 1931-1940 and chief of surgery from 1940 until 1958.

In Glace Bay, **Dr. M. G. Tompkins** has been recommended by the Board of Health to act as the Town Medical Health Officer. This position was held for over 20 years by the late Dr. T. J. Khattar.

Dr. Laurie K. MacNeil who graduated after a distinguished academic record at Dalhousie in 1964, and has been this year in Fredericton, N. B. has been awarded a \$4,800 Fellowship in Paediatrics from the Wyeth Laboratories, Philadelphia. He will begin his Residency at the Children's Hospital in Halifax. The Fellowship covers a two-year period to be devoted to the advanced study in the care and treatment of children in any hospital approved by the American Board of Paediatrics and the A.M.A.'s Council on Medical Education and Hospitals.

Dr. David Jannigan, another distinguished graduate of Dal-

housie returns to his Alma Mater as Associate Professor of Pathology. Since his graduation in 1957, Dr. Jannigan has been research fellow, instructor and assistant professor at various institutes in England and America, latterly at the University of Kansas. Besides teaching and sharing in the diagnostic activities of the pathology institute he will continue his research on the histo-chemical and other aspects of experimental amyloidosis supported by a two year grant from the Medical Research Council of Canada.

Dr. Douglas and Mrs. (Dr. Pamela) Brown and their two daughters have left for Liverpool, England. Dr. Brown received his Fellowship from the Royal College of Surgeons and will be studying under a MacLaughlin Travelling Fellowship in Orthopaedic Surgery.

BIRTHS

To **Dr. and Mrs. Emmett Foley**, (née Diana Coffin), a son Colin Emmett, at the Halifax Infirmary on July 4, 1966.

To **Dr. and Mrs. Clive MacDonald**, (née Shirley Eagles), a daughter, Hilary Susan, at Eastern Kings Memorial Hospital, Wolfville, on June 12, 1966.

To **Dr. and Mrs. Kenneth Nickerson**, (née Mary Power, RT), a son Peter Edward, at the Halifax Infirmary, on June 25, 1966.

To **Dr. and Mrs. T. Neville Elwood**, a daughter at the Halifax Infirmary, on June 21, 1966. □

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