

# Comments On Peroral Endoscopy\*

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**P**ERORAL endoscopy is the highly specialized field in which a scope is passed by way of the mouth to enable visualization of the larynx, tracheo-bronchial tree, oesophagus and stomach. It thus provides great opportunities in the diagnosis and therapeusis of diseases afflicting the above mentioned organs.

In some cases it lends confirmation to the diagnosis obtained by other means. In other cases, where despite all other diagnostic measures, the diagnosis remains obscure, it will often be the one diagnostic means to give us the answer.

Improvement, particularly in the bronchoscopic technique, has contributed substantially to the advances in medical and surgical management of diseases of the chest. Bronchoscopy provides a direct means of looking into the tracheobronchial tree to study pathology.

Improvements in instrumentarium, anaesthesia and concepts of anatomy and pathology have all added to the progress in this field.

No one deserves more credit in pioneering and popularizing this highly specialized field, than Chevalier Jackson and his son, of Philadelphia, Pa. They have contributed enormously to the literature and through their many years of teaching doctors from all parts of the world, have widely disseminated their knowledge. It was my good fortune to have had the opportunity in attending one of their courses.

## ANAESTHESIA

Before advancing to our main topic, it is very important that we discuss anaesthesia. We should be able to effect instrumentation with the least possible distress to the patient and thus assure a methodical and unhurried investigation.

There are three outstanding requirements for a technique of peroral endoscopy which may be summed up in the words safety, efficiency and comfort. Proper attention to anaesthesia will contribute substantially to the fulfillment of all three of these requirements.

In the Jackson Clinic, in Philadelphia, as a rule, no anaesthesia, general or local, is used in children under eight years of age. However, premedication with morphine and atropine, using Young's rule, particularly in apprehensive children, is frequently helpful.

Premedication in children over eight years of age and adults is commonly used. Morphine and atropine, frequently reinforced with nembutal, are the drugs of choice.

Local anaesthesia is used almost to the exclusion of general anaesthesia at the Jackson Clinic.

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The pharynx is usually sprayed first with either 2 per cent pontocaine or 1 per cent cocaine. Following this, fractional intratracheal instillation is performed with either 1 per cent pontocaine or 10 per cent cocaine, using the Luken's syringe and under guidance with the laryngeal mirror. Three to four drops are instilled at one time and repeated in two minute intervals. A total of 5 c.c. 1 per cent pontocaine or 2 c.c. of 10 per cent cocaine should be used. In allergic patients, pontocaine should be avoided and is generally more toxic than cocaine.

Have the patient bend forward and to the left to enable the anaesthesia to flow into the left bronchus. It readily flows into the right bronchus since this is a direct continuation of the trachea.

Systemic reactions to local anaesthesia consist of beginning twitchings, euphoria and talkativeness, which may rapidly progress to clonic contractions and even convulsions. Sodium pentothal for intravenous injection and oxygen should be readily available.

For oesophagoscopy and gastroscopy, a pharyngeal spray is usually all that is necessary.

General anaesthesia, as previously mentioned, is rarely used in the Jackson Clinic. It may be necessary with an unruly child or a very apprehensive adult. The usual general anaesthetics may be used, keeping in mind their contra indications. Pentothal sodium with or without curare has its advocates.

### TYPES OF INSTRUMENTS AND EQUIPMENT

I shall not burden your minds with a detailed description of the various instruments. The scopes, with which I am familiar and which are most universally used on the North American Continent, are those made by Pillings, of Philadelphia, Pa.

These scopes are distally illuminated. There are three general types: 1. laryngoscope, 2. bronchoscope, 3. oesophagoscope.

The laryngoscopes are essentially of three sizes—infant, child and adult to admit the scopes of corresponding sizes.

The bronchoscope and oesophagoscope have only one essential difference in that the distal, one-third of the shaft of the bronchoscope, has numerous perforations. The usual dimensions are as follows:

Newborn bronchoscope (Holinger) 3.5 mm. x 30 cm. diameter.

Infant bronchoscope 4mm. x 30cm.

Child bronchoscope 5mm. x 30cm.

Adult bronchoscope 7mm. x 40cm. (Most generally used).

Infant oesophagoscope 5mm. x 35cm.

Child oesophagoscope 6mm. x 35 cm.

Adult oesophagoscope 9mm. x 45cm. (Most generally used).

Adult oesophagoscope for proximal examination of stomach 9mm. x 53 cm.

A few of the more highly specialized bronchoscopes are: Holinger photographic bronchoscope, electrocoagulation bronchoscope, costophrenic bronchoscope, telescopic bronchoscope and retrograde bronchoscope.



I must mention also the Wolf-Schindler gastroscope. This has a flexible shaft and is equipped with a rubber bulb which enables the operator to inflate the stomach with air just distal to the scope and thus permitting adequate visualization. This scope is only used for visualization as its optical system does not permit of passing instruments. When instrumentation is necessary, the open tube gastroscope must be used.

Without going into details, I shall merely mention the following additional instruments and equipment which are essential to the completion of the armamentarium of any endoscopist.

Forceps of varying lengths for the purpose of extracting foreign bodies, obtaining tissue for biopsy and for removal of benign growths.

A triple circuit battery set with six battery cords is probably most frequently used. Electrical outlets, with rheostatic control, may be used, but the hazard of electrocution is the main objection.

Oesophageal bougies 10—28F (even numbers), sponge carriers varying types of aspirating tubes, Luken specimen collectors and three sizes of bite blocks should complete the minimum requirements.

### SALIENT ANATOMICAL FEATURES

In the adult, the larynx is at the level of the fourth and fifth cervical vertebra, while the oesophagus and the trachea begin at the level of the sixth cervical vertebra.

The right bronchus is  $2\frac{1}{2}$  cm. long and at a 25 degree-angle with the trachea. The left bronchus is 5 cm. long and at a 75 degree-angle with the trachea. The vertical carina is at the level of the second costal cartilage.

The right lung has three lobes which are divided into the following segments: 1. *Upper*—apical, posterior and anterior. 2. *Middle*—lateral and medial, 3. *Inferior*—medial basal, anterior basal, lateral basal and posterior basal.

The left lung has two lobes, which are divided into the following segments: 1. *Upper*—(a) *Upper Division*—apical posterior and anterior, (b) *Lower Division* (Lingular)—superior and inferior. 2. *Lower*—superior, antero-medial basal, lateral basal and posterior basal.

Going down the right bronchus, we first come to a vertical septum on its lateral wall to the right of which is the orifice to the upper lobe. Further down the bronchus we come to a horizontal septum on the anterior wall, in front of which is the orifice to the middle lobe. Distal to this we enter the lower lobe with its five orifices leading to the basal segments.

Going down the left bronchus we first come to the oblique septum on its lateral wall, lateral to which is the orifice to the upper lobe. Distal to this we enter the lower lobe with its four segmental orifices.

The oesophagus commences approximately 15 cm. from the teeth opposite the sixth cervical vertebra behind the cricoid cartilage. Just proximal to it the cricopharyngeus muscle acts as a sphincter. The oesophagus is 25 cm. long and goes through the diaphragm at the level of the tenth or eleventh dorsal vertebra. Just before piercing the diaphragm, it makes a sharp bend to the left.



Measuring from the teeth we have the following points of narrowing:  
15 cm. (cricopharyngeus), 23 cm. (aorta).  
25 cm. (left bronchus), and 36 cm. (hiatus of the diaphragm).  
40 cm. from the teeth is the cardia.

## TECHNIQUE OF INSTRUMENTATION

### 1. Position of the patient

The patient is placed in the recumbent position, with his shoulders just beyond the end of the table and the head supported by a trained assistant. The neck and shoulder muscles should be relaxed as completely as possible. Dr. Jackson places great reliance on the so-called "Sermon on Relaxation", in which the operator takes great pains to reassure the patient and thus relieve his apprehension.

The head is elevated well above the level of the table top and then extended so that the head is extended on the cervical spine. In this way we line up the mouth and throat with the larynx and oesophagus.

### 2. Assistant

As just mentioned the assistant should be trained. He should sit on a stool to the right of the operator with his left foot on a 14" high foot stool, his left elbow resting on his knee and his left palm supporting the occiput of the patient. His right arm is supporting the neck of the patient, keeping it flexed while a bite block on his index finger is keeping the patient's mouth open and with his thumb under the chin, he is extending the head on the neck.

### 3. General Procedure

The laryngoscope may be used to expose the larynx or oesophageal orifice and the scope passed through it or if the operator is expert, the scope alone may be introduced directly into the larynx or oesophagus. The instrument is held in the right hand with the handle directed upwards, which indicates that the distal lip of the scope is also directed upwards. The left hand is supporting the shaft as the scope is passed with the thumb exerting pressure upwards. The scope is passed back over the tongue toward the right angle of the mouth, until the crest of the epiglottis is visualized. The epiglottis is lifted forward gently but firmly and the instrument slowly advanced. If a bronchoscopic examination is being made, the scope is carefully insinuated through the glottis and the bronchoscopic examination completed.

If an oesophagoscopy examination is being made, the distal end of the scope is directed behind the larynx and the cricopharyngeus is visualized. We frequently have to wait a moment here until the sphincter relaxes to admit the advancing scope. It is necessary occasionally to tickle the cricopharyngeus sphincter with an oesophageal bougie to cause it to open. It is at this point that the operator should be very cautious and forcing the scope should be avoided, because the posterior wall of the cricopharyngeus is very thin and may be easily perforated. As the distal end of the scope passes through the proximal orifice, it should be advanced slowly. In reaching the distal portion of the oesophagus, where it bends sharply to the left, the operator should swing the scope far to the right as the scope advances.

Throughout the procedure, it is important that the head holder maintain the proper balance between flexion and extension so that the tube will not



bind. To facilitate passing the scope in various directions, the head may be raised, lowered and deviated to the right or left.

Always try to avoid pinching the lips or tongue between the instrument and the teeth. This will cause more discomfort to the patient than anything else in the whole procedure.

### INDICATIONS

There are two main indications.

1. Diagnostic
2. Therapeutic

#### 1. *Diagnostic*

##### (A) Laryngobronchopulmonary

1. Unexplained, persistent cough
2. Haemoptysis
3. Persistent hoarseness
4. Unexplained wheezing
5. Aspiration of bronchial secretions for the Papanicolaou technique of cancer cell-detection, in suspected pulmonary malignancy.
6. Aspiration of bronchial secretions and suppurative contents for the bacteriological examination of uncontaminated material.
7. Unexplained X-ray findings.
8. Dyspnoea
9. Obtaining biopsy material from neoplasms.

##### (B) Oesophago-Gastric

1. Dysphagia
2. Unexplained haematemesis
3. Unexplained emesis
4. Unexplained X-ray findings
5. Obtaining biopsy material from neoplasms

#### 2. *Therapeutic*

##### (A) Laryngobronchopulmonary

1. Pulmonary Abscess—

This is frequently due to and distal to an obstruction by a foreign body, inflammatory stenosis or a tumor. It is very important to discover this situation early and to remove the cause.

In small abscesses, following removal of the obstruction and drainage by aspiration, a cure will frequently be effected. In more extensive abscesses, preoperative aspirations will lessen post-operative infection.

2. Bronchiectasis—

At the Jaskson Clinic, bronchoscopy, followed by aspiration of purulent secretions and instillation of penicillin solution, was performed much more often than for any other individual condition.

In a very few proportion of cases of early, mild conditions, a cure has been effected following bronchoscopic aspirations. In the vast majority of cases



the aspirations are merely palliative and the only hope for a cure is by lobectomy or pneumonectomy.

### 3. Empyema—

Since a bronchial obstruction may be present as an etiologic or perpetuating factor, bronchoscopic observation should be done in all cases and removal of the obstruction if bronchoscopically possible. The following may cause the obstruction: foreign body, broncholith, inflammatory, or tuberculous stenosis, benign and malignant tumors.

### 4. Asthma—

In some cases there is a considerable amount of viscid secretion present in the tracheobronchial tree. Aspiration of these secretions will afford marked symptomatic relief. Aspiration should never be done during an acute attack.

### 5. Obstructive Atelectasis—

This condition mainly occurs in the following: Complicating the inhalation of a foreign body, the post-operative variety, asphyxia neonatorum due to aspiration of amniotic contents.

Removal of the obstruction will almost invariably clear up the atelectasis and in some cases, especially in the neonatorum asphyxia conditions, will be life-saving.

In the last two years I had three such latter cases, one of whom was a premature. They all displayed X-ray evidence of atelectasis and clinical signs of cyanosis and dyspnea. Following aspiration of the bronchial secretions, the atelectases cleared up rapidly and they went on to full recovery.

### 6. Tuberculosis—

Until recently, bronchoscopy was thought to be contra indicated in tuberculosis. It soon came to be realized that the study of the tuberculous patient with the slightest sign or symptom of a bronchial lesion was incomplete if bronchoscopic examination was not carried out. Furthermore, it was found that in many cases local treatment was of value. The bronchial lesions are chiefly either flat ulcerations or ulcerogranulomas. The former should be treated with 35 per cent silver nitrate and the latter with electrocoagulation. If the ulcerogranulomas are large and especially if pedunculated, they may be partially removed with forceps and then coagulated. The presence of a tuberculous lesion associated with non tuberculous suppuration should contraindicate collapse therapy. In children we will frequently see bronchial obstruction produced by peribronchial lymph node compression or by the intrusion of a lymph node into a bronchial lumen. Depending upon the degree of obstruction, a wheeze, an obstructive emphysema or an obstructive atelectasis will result. Bronchoscopic treatment is always indicated for the relief of such obstruction.

### 7. Benign and Malignant Tumors—

Benign tumors, especially those pedunculated, of the larynx, trachea and bronchi are frequently easily removed with a forceps.

A bronchial tumor should always be suspected where there are signs of bronchial obstruction without a suggestive history of a foreign body. If there is also haemoptysis so much greater the suspicion.

In a case of persistent hoarseness, especially in a person over forty years of age, malignancy of the vocal cords should be suspected and fully investigated.



The anterior commissure must be visualized before malignancy can be ruled out.

Among the benign tumors most frequently encountered, we must mention the bronchial adenomas. These occur chiefly in young or middle aged females. and are characterized by haemoptysis with signs of obstruction. Among other benign tumors which may be found are papillomas, osteochondromas, lipomas and neurofibromas.

Of the malignant tumors, carcinoma is by far the commonest and in 75 per cent of the cases, it involves a bronchoscopically accessible bronchus so that the diagnosis can be confirmed by bronchoscopic biopsy.

#### 8. Foreign bodies—

A multitude of varying types of foreign bodies have been inhaled into the tracheobronchial tree. Some of these are easily removed, while others present a considerable mechanical problem. Bronchoscopy offers the only conservative and speedy method for the removal of these foreign bodies.

#### (B) Oesophago—Gastric

1. Strictures of oesophagus following ingestion of caustics and sequela of tuberculosis and syphilis. Strictures may be dilated by periodic passage of progressively larger bougies.

#### 2. Benign and malignant tumors—

Compared to the tracheobronchial tree, benign tumors are uncommon. The most commonly found are papillomas, adenomas, angiomas, myomas, fibromas, lipomas, myxomas, polyps and cystic growths. If pedunculated they may be easily removed and if sessile, removal may be difficult.

Similar to benign growths, the incidence of malignant growths is not high.

Although carcinoma may affect any portion of the oesophagus, it is most common in its lower third. Squamous celled-epithelioma is the most frequent malignant neoplasm.

#### 3. Oesophageal Diverticula—

These may be detected and treated palliatively through aspiration by oesophagoscopy. Surgery offers the only cure.

#### 4. Oesophageal Varices—

These may be treated by injection with a sclerosing solution. In cases where bleeding is recurrent and often serious, this therapy is of great benefit.

#### 5. Cardiospasm—

This frequently causes distressing symptoms of dysphagia and emesis. It is most commonly found in neurotic females. It may be treated by passage of progressively larger bougies, or independent of oesophagoscopy, by the passage of a pneumatic cuff under fluoroscopic control.

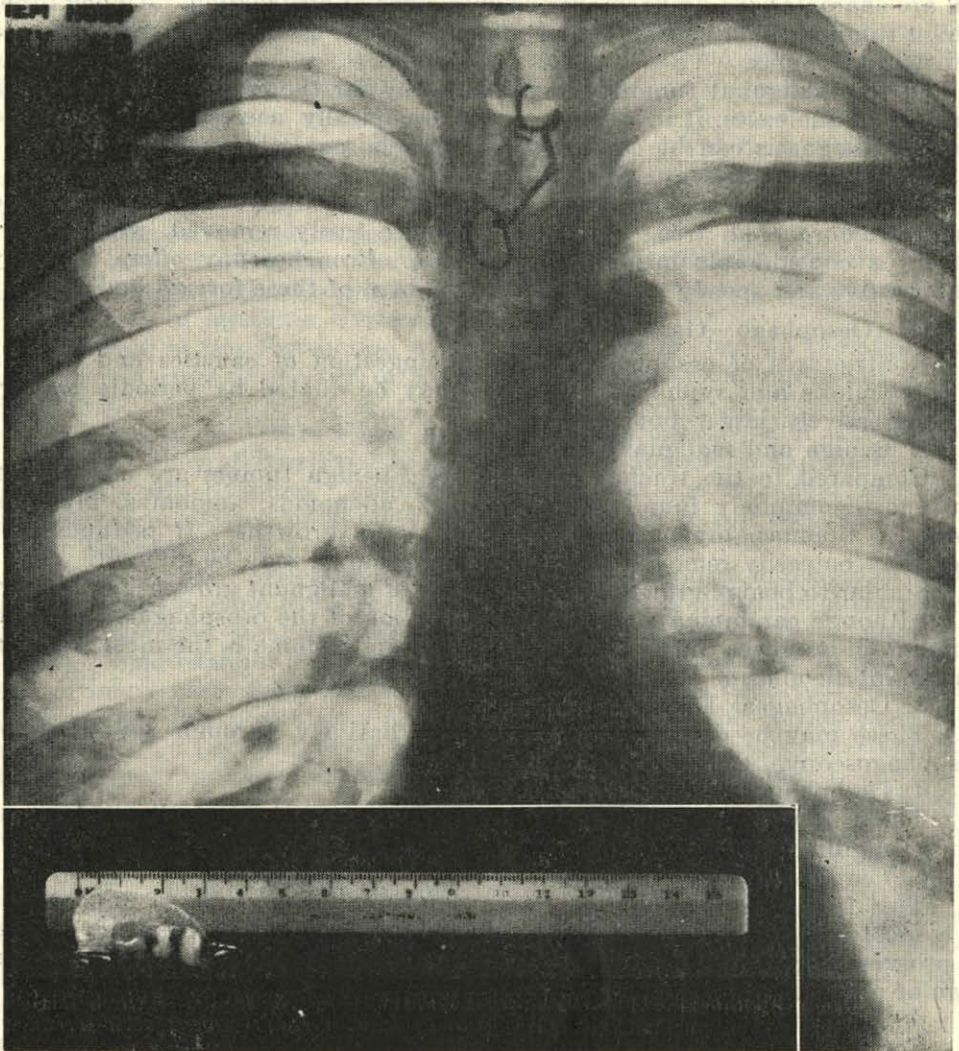
#### 6. Foreign Bodies—

For the removal of these foreign bodies, just as in the tracheobronchial tree, oesophagoscopy is indispensable. Foreign bodies in the proximal portion of the stomach may sometimes be removed with the 9 x 53 scope.

I wish to show you X-rays of two recent cases. One is that of a five-year old boy in whom an alarm clock key lodged in his oesophagus. The other is that of a twenty-five year old man in whom a partial denture was accidentally swallowed and lodged in his oesophagus.

Both foreign bodies were removed with a pincer-type forceps.

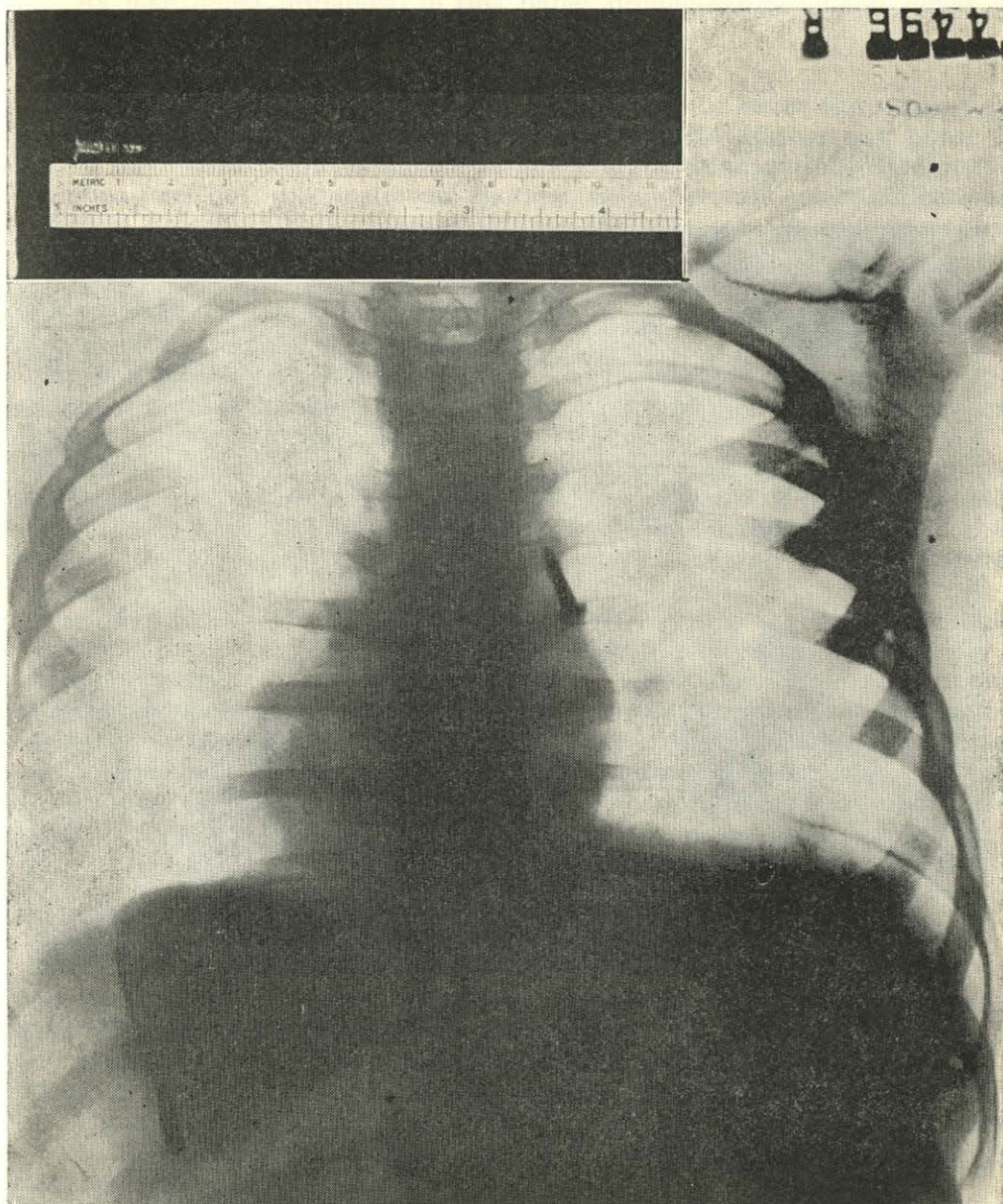
The anterior costal arches must be stabilized before satisfactory can be  
 label out.  
 Among the benign tumors most frequently encountered are adenoma of the  
 the bronchial system. These occur chiefly in young or middle aged females.



Partial denture lodged in upper oesophagus, just below the cricopharyngeus. Denture removed with pincer-type forceps. (Adult Male, Age 25)

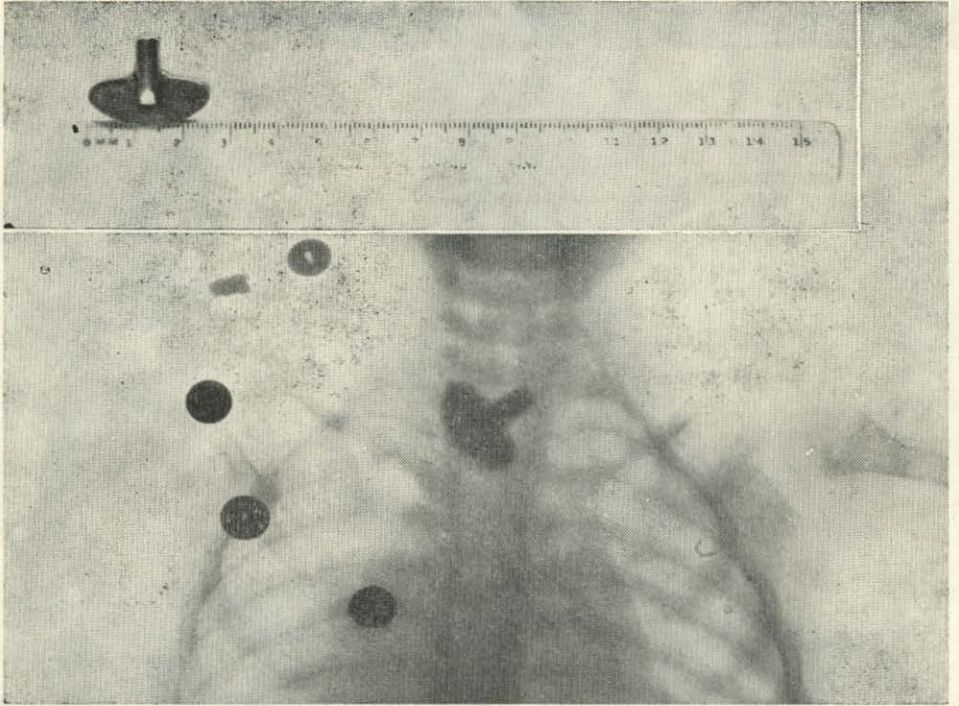
of the stomach may vary from two to four centimeters. One is that of a five-year  
 I wish to show you a case of two recent cases. One is that of a five-year  
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 swallowed and lodged in his oesophagus.  
 Both foreign bodies were removed with a pincer-type forceps.





4 year old girl. Screw lodged in the right bronchus.





Alarm clock key lodged in the upper oesophagus. Key removed with pincer-type forceps. Other metallic objects are metal buttons on clothing. (Male, Age 3)



### CONTRAINDICATIONS

In an emergency there are essentially no contraindications. The only real contraindications in elective endoscopy is any serious cardiac condition. As mentioned previously in this paper, bronchoscopy should never be performed on an asthmatic during an acute attack.

### SUMMARY

In my paper on peroral endoscopy I have tried to cover the whole field in a very short time. Obviously it was impossible to discuss any phase in detail. I have tried to put emphasis on anaesthesia, technique of instrumentation, indications, both diagnostic and therapeutic and certain contraindications.

I have described the armamentarium and indicated the minimum that was required to adequately perform peroral endoscopy.

I have briefly discussed the anatomy of the oesophagus and the tracheo-bronchial tree. It goes without saying that a peroral endoscopist should have a very good knowledge of the anatomy.

In such a highly specialized field, in which errors of technique can seriously harm or even prove fatal to patients, no one should practise peroral endoscopy unless they have had proper training.

While this specialty is coming into its own more and more every day and is used frequently and widely recognized in larger centres, it is in the smaller localities that it is not used often enough. This is true in spite of the fact that such a service is frequently available. The fault lies mainly with the general practitioner.

We have to educate the general practitioner. He is the one who should be on the alert for conditions in which peroral endoscopy is indicated.

There are still too many newborn who die with diagnosis of pneumonia or possibly cerebral insult, who have asphyxia neonatorum due to inhalation of amniotic contents. The majority of these cases could be saved if consultation with the endoscopist were had and aspiration performed. Also there are still too many cases of unexplained persistent cough, wheezing dyspnea, haemoptysis, haematemesis, dysphagia and emesis, including unexplained X-ray findings of chest pathology, many of which could be properly diagnosed and treated by peroral endoscopy.

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## Correspondence

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Fawrencetown, N. S.

January 8, 1952

The Editor:  
The Nova Scotia Medical Bulletin  
Halifax, N. S.

Dear Sir:

Forty years ago Dr. Frank Crane, an American clergyman, wrote for American and Canadian daily newspapers short sketches on many subjects which were striking and appealed to everyone.

I found the enclosed in some of my clippings of 1913. Perhaps you will find a place for it in the next issue of the Bulletin. In these days when efficiency in the art of healing seems to be the chief aim of life in the medical mind it might do us all good to overhaul our spiritual backgrounds.

Yours very truly,

L. R. Morse, M.D.

### THE PRAYER OF THE PHYSICIAN

Dr. FRANK CRANE, 1913

**|** PRAY that I may have absolute intellectual honesty. Let others fumble, shuffle and evade, but let me, the physician, cleave to the clean truth, assume no knowledge I have not and claim no skill I do not possess.

Cleanse me from all credulities, all fatuous enthusiasms, all stubbornness, vanities, egotism, prejudices, and whatever else may clog the sound processes of my mind. These be dirt; make my personality as aseptic as my instruments.

Give me heart, but let my feeling be such as shall come over me as an investment of power, to make my thoughts clear and cold as stars, and my hand as skilful—strong as steel.

Deliver me from professionalism, so that I may be always human, and thus minister to sickly minds as well as to ailing bodies.

Give me a constant realization of my responsibility. People believe in me. Into my hands they lay their lives. Let me, of all men, be sober and walk in the fear of eternal justice. Let no culpable ignorance of mine, no neglect nor love of ease, spoil the worth of my high calling.

Make my discretion strong as religion, that the necessary secrets of souls confided in me may be as if told to the priest.

Give me the joy of healing. I know how far short I am of being a good man; but make me a good doctor.

Give me that love of eagerness and pride in my work without which the practice of my profession will be fatal to me and to them under my care.

Give me a due and decent self-esteem, that I may regard no man's occupation higher than mine, envying not the king upon his throne so long as I am prime minister to the suffering.

Deliver me from playing at precedence, from the hankering for praise and prominence, from sensitiveness, and all like forms of toxic selfishness.

Give me money; not so little that I cannot have the leisure I need to put quality into my service; not so much that I shall grow fat in head and leaden in heart, and sell by sense of ministry for the flesh-pots of indulgence.

Give me courage, but hold me back from over-confidence.

Let me so discharge the duties of my office that I shall not be ashamed to look any man or woman in the face, and that when at death I lay down my task I shall go to what judgment awaits me strong in the consciousness that I have done something toward the sanity, health, and happiness of all people, something toward alleviating the incurable tragedy of life.

Amen.



## The Care of Hand Injuries\*

### VI

#### OPEN FRACTURES

##### I *Protection of the Hand* (Abstract of Article I)

The first-aid care of wounds of the hand is directed fundamentally at protection. It should provide protection from infection, from added injury, and from future disability and deformity. The best first-aid management consists in the application of a sterile protective dressing, a firm compression bandage and immobilization by splinting in the position of function.<sup>1</sup> No attempt should be made to examine, cleanse, or treat the wound until operating room facilities are available.

##### II *Requirements of Early Definitive Treatment* (Abstract of Article II)

Early definitive care requires thorough evaluation of the injury with respect to its cause, time of occurrence, status as regards infection, nature of first-aid treatment and appraisal of structural damage. For undertaking definitive treatment the conditions required are a well-equipped operating room, good lighting, adequate instruments, sufficient assistance, complete anesthesia, and a bloodless field. Treatment itself consists of aseptic cleansing of the wound, removal of devitalized tissue and foreign material (exercising strict conservation of all viable tissue), complete hemostasis, repair of injured structures, protecting nerves, bones and tendons, and providing maximum skin coverage, and application of firm protective dressing to maintain the optimum position. After-treatment consists of protection, rest and elevation during healing and early restoration of function by directed active motion.

##### III *Surface Injuries* (Previously circulated)

##### IV *Lacerated Wounds* (Previously circulated)

##### V *Fractures and Dislocations* (Previously circulated)

##### VI *Open Fractures*

Major wounds of the hand may be caused by crushing or tearing injuries, injuries from explosions, or by the impact of foreign bodies. Such wounds may involve damage to skin by burning or avulsion, laceration of soft tissues, and open injuries of bones or joints. The purposes of early treatment are:

\*Note: This is the sixth of a series of articles on "The Care of Hand Injuries". This material is prepared by the American Society for Surgery of the Hand and is distributed by the Committee on Trauma, American College of Surgeons, through its Regional Committees.

<sup>1</sup>Position of function or position of grasp: wrist hyperextended in cock-up position; fingers in mid-flexion and separated; thumb abducted, slightly forward from hand and slightly flexed.

- (1) Relief of pain and shock
- (2) Arrest of hemorrhage
- (3) Protection against infection and further injury
- (4) Removal of foreign bodies and dead tissue
- (5) Conservation and restoration of damaged structures
- (6) Early healing
- (7) Restoration of function

#### A. First-aid treatment

1. Application of voluminous sterile dressing without interference with the wound, the hand being placed in the position of function.
2. Hemostasis can usually be obtained by pressure gently applied to such a dressing. A tourniquet is rarely needed, but may be employed briefly to check brisk, continuing blood loss.
3. Shock and pain may require appropriate treatment.
4. The hand, in initial dressing applied as above, is splinted in position of function for transportation to adequate surgical facilities. (See Article II)

#### B. Definitive treatment

1. If bones or joints are thought to be involved, preliminary x-ray views are made without disturbing the initial dressing.
2. Patient is treated systematically for pain, shock and hemorrhage; antibiotics and tetanus antitoxin (or toxoid booster) are administered, and the patient prepared for operation.
3. In operating room, with patient anesthetized, dressing is removed.
4. With the wound carefully protected, the arm, forearm, and hand are scrubbed, shaved and draped.
5. The skin wound and the area about it are carefully and gently cleansed with soap and water or mild detergent (no antiseptics) and the entire wound examined. Bleeding vessels are ligated.
6. Foreign material and devitalized tissue are accurately trimmed away.

This procedure aims at thoroughness, but must strictly conserve the maximum of viable tissue. It is particularly important to preserve skin and all bone fragments which are not completely free and displaced.

7. Repair of soft tissue injuries is governed by criteria of length of time since injury and of the degree and nature of contamin-



ation. (See Article IV) Where conditions are favorable (i.e., in relatively clean wounds not more than three or four hours old), initial repair may be effected within limitations described in Article IV.

Even in unfavorable cases, several nerves should be united if possible, or at least identified by long sutures of stainless steel.

8. Dislocations of joints, if open in the wound, are reduced.
9. Bone fragments in the open wound are restored as nearly as possible to normal position, but without fixation by foreign material. In some instances the employment of stabilization with a minimum of stainless steel wire is justifiable if required to maintain reduction.
10. Maintenance of reduction of open fractures may usually be obtained by skeletal traction or appropriate splinting. (See Article V) If required, pins for bone fragment fixation or skeletal traction are applied as there described.
11. Maximum skin closure is effected. (See Article IV) Particular care is taken to cover bones, joints, tendons and nerves. Where required, pedicle skin grafts (local or from abdominal wall) may be used for coverage unless established or inevitable infection forbids.
12. Pressure dressing is applied and the hand splinted as required for optimum control of its repaired injuries, approximating as closely as possible the position of function. (See Articles IV and V) Flat splinting is to be avoided. Uninjured parts of the hand should be left free for movement. The hand is kept elevated.

#### C. Subsequent dressings

These are managed with regard to the following factors named in the order of their importance: (a) Control of infection, adequate drainage; (b) Establishment of bony union and joint healing; (c) Early completion of skin coverage and healing.

1. The establishment of infection in the wound may require early and frequent dressings to insure its control. These should be done under aseptic conditions and in such manner as not to disturb the corrected position of injured bones or joints.
2. Large skin defects should be covered by grafting at the earliest moment compatible with the maintenance of position of corrected bone and joint injuries. (See Article III)

#### D. Restoration of function

Following healing of skin and soft tissues and firm union of bony structures, as much function as possible should be restored by directed active use of the hand, therapeutic exercises and occupational therapy.

Reconstructive surgery is often required after such injuries to permit maximum restoration of function. Such reconstruction will be less extensive and less formidable if the early management of the injury is judiciously and carefully carried out.

## Post-Graduate Course

### SHORT ANAESTHESIA COURSE

A short course in Anaesthesia will be given in Halifax, April 7th—9th, inclusive. The course should appeal to physicians who are called upon to give anaesthetics in their daily practice or who are part-time anaesthetists in their community.

The mornings will be spent in the operating rooms of Halifax Hospitals and the afternoons devoted to Lectures and Round Table Discussions which will cover all phases of Anaesthesia, including the following:

Blood Substitutes, Shock Therapy, Regional and Spinal Anaesthesia, Anaesthetic Emergencies, Paediatric and Geriatric Anaesthesia, Anaesthesia in Obstetrics, and Vinethene in General Practice.

Registration fee \$15.00.

Application may now be made to the Post-Graduate Office, Victoria General Hospital, Halifax, N. S.

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### POST-GRADUATE MONTH IN SURGERY

The fourth annual Post-Graduate Course in General Surgery will be held at the Victoria General Hospital Halifax, Nova Scotia. It is designed to

- (1) Assist those writing Fellowship or Certification Examinations.
  - (2) To provide a means whereby practising surgeons, not intending to write examinations, could learn of more recent advances in surgery.
- The course consists of two portions:—
- (a) A correspondence section which will begin in April and continue through August.
  - (b) Didactic lectures which will be given for four weeks during the period September 8th. to October 14th.

The courses will include lectures in Anatomy, Pathology, Basic Sciences, Clinical Medicines and General Surgery.

The fee for the course is One Hundred Dollars.

Applications should be addressed to the Chairman, Post-Graduate Committee, Victoria General Hospital, Halifax, N. S.



# Correspondence

CONNAUGHT MEDICAL RESEARCH LABORATORIES  
University of Toronto

7th January, 1952

Dr. Margaret E. B. Gosse,  
Editor in Chief,  
The Nova Scotia Medical Bulletin,  
Halifax, N. S.

Dear Doctor Gosse:

A short time ago an acquaintance of mine in the United States, Dr. Rudolph Roesler de Villiers, forwarded to me copy concerning a Foundation established in memory of his son and incorporated as the Robert Roesler de Villiers Foundation Inc. and an announcement of certain prizes which the Foundation is offering in an endeavour to assist in research pertaining to leukemia. Copies of certain announcements of the Foundation are being enclosed herewith. I am sure it would be much appreciated if you could publish all or part of these as a news item.

Very truly yours,

A. M. Fisher

Assistant Director

417 Park Avenue  
New York 22, NY  
Fall, 1951

## ROBERT ROESLER DE VILLIERS FOUNDATION, INC.

has been established in memory of a boy who died of Leukemia at the age of 16½ years. Hardly anything is known about the causes of this terrible disease of which we hear and read more and more often, nor does there exist thus far any effective treatment for it.

At present this Foundation, with the cooperation of the International Society of Hematology and the Societe Internationale Europeenne d'Hematologie, is offering an award of \$1,000 for the most important paper that presents a significant contribution to the knowledge of Leukemia. This prize will be increased to \$1,500 according to the practical value of the paper and to \$5,000 for a cure or a therapy which will keep the patient alive and enable him to live more or less normally as insulin does for the Diabetic patient. This award will be given to a research man at a hospital or laboratory or to an individual worker here and abroad—whoever submits the significant contribution which the contest is seeking.

The foundation intends to offer a prize annually and to support specific research projects. Among them will be the development of those drugs or forms of therapy described in the papers submitted, which in the opinion of the Jury offer prospects of leading to an effective treatment of Leukemia and allied conditions. Should the hoped-for effective treatment be expensive, the Foundation will assist needy patients.

We plan to finance Fellowships at American and foreign medical schools and to consider the establishment of one or more Professorships for Leukemia and allied diseases; also to keep available reprints or micro-films of all important scientific publications dealing with Leukemia.

Donations and grants have been used solely for Leukemia-fighting projects. All expenses have been absorbed personally by the management. The officers of the Foundation are serving without remuneration. The Foundation receives its funds by contributions from individuals, corporations, and other organizations.

This Foundation is a Membership Corporation under the laws of the State of New York. As the United States Treasury has granted it tax exemption, the Foundation pays no income tax, and any donor may deduct his contributions or bequests to the Foundation from his taxable income, just as contributions to the Red Cross, Salvation Army and other charitable institutions.

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### ROBERT ROESLER DE VILLIERS FOUNDATION, INC.

417 Park Avenue  
New York 22, N. Y., U. S. A.

November 25, 1951  
(Contest II)

THE ROBERT ROESLER DE VILLIERS FOUNDATION, INC., a Membership Corporation established under the laws of the State of New York, U. S. A. exclusively for charitable, scientific, literary and educational purposes in memory of Robert Roesler de Villiers who died of acute Leukemia at the age of 16 years on October 20, 1944.

(a) OFFERS A PRIZE OF \$1000 U. S. CURRENCY

for the most important paper which, in the opinion of the jury hereinafter named, is deserving and makes a significant contribution to the knowledge of the nature, causes, origin, treatment or cure of acute Leukemia and allied conditions.

(b) Should the jury find that the paper to which it awards the prize is of outstanding importance, the jury may suggest to the Foundation that it increase the prize in proportion to the practical value of the paper

TO A MAXIMUM OF \$1,500. U. S. CURRENCY

(c) Should such paper describe a cure or effective therapy the jury may suggest to the Foundation that it increase the prize

TO A MAXIMUM OF \$5,000. U. S. CURRENCY

\* \* \* \* \*

This offer is made on the following terms and conditions:

1. The jury shall consist (in alphabetical order) of  
Dr. Albert Alder,  
Professor of Medicine, University of Zurich, Switzerland, Physician-in-Chief and Director, Contonal Hospital, Aarau, Switzerland;



William B. Castle, M.D..

Professor of Medicine, Harvard University, Director Thorndike Memorial Laboratory, and Second and Fourth Medical Services, Boston City Hospital, Boston, Massachusetts, U. S. A.;

Jan Waldenstroem, M.D.,

Professor of Medicine, University of Uppsala, Kungl. Akademiska Sjukhuset, Uppsala, Sweden, and

Maxwell M. Wintrobe, M.D., PH.D.,

Professor and Head, Department of Medicine, University of Utah, Salt Lake General Hospital, Salt Lake City, Utah, U. S. A.

2. If one or more of the above named members of the jury shall fail to act, such other person or persons as may be approved by the Foundation shall serve in their place. If these jurors are not sufficient to judge in time all the papers submitted, the jury may be increased in number by the Foundation.

3. If government regulations prevent the remittance of the prize to an author or authors residing abroad, the money will be held until the author or authors can dispose of it in accordance with the then existing laws and regulations of the United States of America.

4. Authors residing in countries outside the Western Hemisphere are requested to submit five easily legible copies of each paper to the Secretary-General (P. D. Sven Moeschlin, M.D.) of the Societe Internationale Europeenne d'Hematologie, Kantonsspital, Zurich, Switzerland. Authors residing in countries of the Western Hemisphere are requested to submit five easily legible copies of each paper to the Secretary-General (Sol Haberman, Ph.D.) of the International Society of Hematology, 3301 Junius Street, Dallas, Texas, U. S. A. In order to be eligible, papers must arrive not later than October 20, 1952, the anniversary of Robert Roesler de Villiers death.

At his option, an author (or authors), who has his legal residence abroad where contests under code word are customary, may submit his paper either under his own name or designate it by a code word. If designated by a code word, the paper shall be accompanied by a sealed envelope with the same code word on its outside, containing the name and address of the author or authors. This envelope shall be opened by an officer of this Foundation after the jury has decided on the prize-winning paper.

5. (a) Papers to be considered for the contest shall have been either published or accepted for publication by a reputable journal in or outside of the United States of America between January 1, 1951 and October 20, 1952. Papers published prior to January 1, 1951 shall be ineligible for submission hereunder.

(b) If the jury or the Foundation believes that exceptional circumstances exist, the jury—with the consent of the Foundation—may consider for this contest papers that have not been published or accepted or submitted for publication.



(c) With the consent of the Foundation, the jury may consider papers which may not have been submitted for the contest in accordance with the preceding Clause 4, or with Paragraph (a) of this Clause 5.

6. The jury shall have the right to consult other experts who, however, shall have no vote.

7. The jury shall decide by unanimity and its decisions shall be final.

8. If the author or authors, so request the Foundation will ask the members of the jury and the societies mentioned in Clause 4 to treat in strict confidence the papers submitted which have not yet been published.

9. It is our intention that the jury's decision as to the prize-winning paper will be made public by the Foundation or, at the request of the Foundation and on its behalf, by the Societe Internationale Europeenne d'Hematologie International Society of Hematology on April 30, 1953. The Foundation has taken steps which it expects will provide for the publication of the jury's decision in medical and other scientific journals and daily papers in the Western Hemisphere as well as on the other sides of the Atlantic and the Pacific.

10. If the author or authors so request, the Foundation will ask its members, the jury and the two societies mentioned in Clause 4 to withhold publication of the prize-winning paper for one year after April 30, 1953 provided the author or authors express a desire to publish it themselves at a meeting of a scientific society or otherwise during that one year period, and agree at such occasion to mention that their paper has been awarded the prize of this Foundation.

11. If the jury concludes that none of the papers submitted within the period above provided in Clause 4 are of sufficient importance to be entitled to the prize, no prize shall be awarded for the papers thus submitted, but this offer may be extended by the Foundation for a further year or a longer period; all dates of this offer to be extended accordingly.

12. The jury may divide the prize among several persons submitting papers which it considers of equal importance and value.

13. Any questions, other than the decisions of the jury (Preamble (a), (b), (c) and Clauses 7, 11, and 12), which may arise in connection with this offer and the ensuing competition, will be decided by the Foundation, and its decision shall be final.

14. The author or authors of the paper receiving the prize will also receive a certificate of award signed by a member of the jury and the President of the Foundation. They will also receive a copy of the book "Robert A. R. de Villiers," with writings of Robert Roesler de Villiers and the history of his life. It is hoped that the recipients will read it so that they can appreciate why his parents believed they should honor and perpetuate their son's memory by establishing this Foundation.



15. The Foundation, if requested, will consider appropriate ways and means of assisting the author or authors of the prize-winning paper or papers in making available for world wide medical use in the public interest the observations or findings described, or the remedies or devices suggested in the prize-winning paper or papers.

16. The Foundation by making this offer assumes no liability whatsoever other than for the payment of the prize money in accordance with the provisions hereof. It is further agreed and understood that no member of the jury assumes any liability whatsoever to any persons submitting a paper. All papers are submitted on these distinct conditions and understandings.

Robert Roesler de Villiers Foundation, Inc.

(Signed) ANTOINETTE R. de VILLIERS,  
President.

10. If the author or authors so request, the Foundation will ask its members, the jury and the two societies mentioned in Clause 10 to withhold publication of the prize-winning paper for one year after April 30, 1953 provided the author or authors express a desire to publish the substance of a question of scientific study or otherwise during that one year period, and agree at such decision to publish that their paper has been awarded the prize of this Foundation. The jury will provide for copies of the prize-winning paper to be distributed to the author or authors and to the two societies mentioned in Clause 10. The prize money shall be divided among several persons admitting that it consists of equal instalments and value.

11. The jury may extend the period for a further year or a longer period; after that period the prize shall be awarded for the papers submitted, but the prize money shall be divided among several persons admitting that it consists of equal instalments and value.

12. The author or authors of the prize-winning paper shall be notified of the decision of the jury and the two societies mentioned in Clause 10. The prize money shall be divided among several persons admitting that it consists of equal instalments and value.

13. Any questions other than the decisions of the jury (Clause 10), (b), (c) and (d) and (12), which may arise in connection with this offer and the ensuing competition, will be decided by the Foundation, and its decision shall be final.

14. The author or authors of the prize-winning paper receiving the prize will also receive a certificate of award signed by a member of the jury and the President of the Foundation. They will also receive a copy of the book "Robert A. de Villiers", with writings of Robert Roesler de Villiers and the history of his life. It is hoped that the recipients will read or recite their statements with pride and pleasure to their friends and patients.

## Obituary

On January 16, 1952 the Town of New Waterford and the surrounding districts suffered the loss of the last of the pioneer medical men of that area in the person of Dr. David J. Hartigan.

Born on November 8, 1887 at North Sydney, he attended school at North Sydney and later at Sydney Mines. During his summer vacations he worked in the offices of the N. S. Steel and Coal Company. In the fall of 1907 he entered Dalhousie University to take up the study of medicine. He graduated in May, 1911. During his stay in Dalhousie he endeared himself to his fellow students and professors alike by his kindness and thoughtfulness for others. He served as Interne at the V.G. Hospital 1911-12. In 1913 he acted as Assistant to the late Dr. M. T. Sullivan, New Aberdeen, N. S., and for a short time Assistant to our beloved Dr. G. H. Murphy, Halifax, N. S., at that time resident surgeon, Dominion, N. S. In 1913, he opened an office at New Victoria N. S., a suburb of New Waterford. In the following year he moved into New Waterford, where his real work was accomplished. He shortly endeared himself to all with whom he came in contact by the soundness of his work and the thoroughness with which he carried out everything to which he put his hand. No detail was too trivial for his attention if it might possibly contribute towards the welfare of any patient. He had the reputation as a skilful, tireless and safe operator as measured by our standards of these early days. He studied at the Mayo Clinic for three months during 1919, and later for several short periods at the famous New York Clinics. During 1926 he successfully wrote the examinations at Massachusetts State Board.

During the terrible explosion in No. 12 Colliery in 1917 which claimed the lives of sixty-seven miners, he worked tirelessly for the welfare of the stricken men spending the whole day in the mine, rendering whatever aid he possibly could at great risk to his own life. He entered politics in 1916 and was defeated for a seat in the local Legislature. On October 15, 1935 he was elected Federal member of Parliament for C. B. South with a very large majority. He was defeated in 1940 and again in 1945. He was an ardent sportsman, especially interested in horse racing and at various times was owner of several valuable race horses. His health for the past number of years has been indifferent, which greatly curbed his activities. His end came rather suddenly having been confined to bed for one week only.

In November, 1925 he married Miss Carrie Phalen, R.N., who survives him as well as a daughter, Carmel.

Funeral services were held on January 19th with Solemn High Mass at Mount Carmel Church, New Waterford. His remains were then taken to North Sydney and placed in the family plot.

M. G. T.

Doctor Henry Allison Payzant, at the age of seventy-nine, died on February 8th, in his native town of Dartmouth, Nova Scotia.

Doctor Payzant received his education in the Public School of Dart-



mouth, Acadia University and the Dalhousie Medical School from which he graduated in 1897. He was the last surviving member of the Class of '97.

The Doctor began his medical practice in Sherbrooke, N. S., and later sailed for several years on "The MacKay Bennett" as medical officer. He then went to London for further study and finally returned to Dartmouth as a general practitioner in his Home Town, a work which he performed diligently until his retirement in 1948, after 50 years of faithful service.

He held the office of Dartmouth Medical Officer for many years, until the time of his death.

Doctor Payzant labored faithfully and was proud to be called the "Family Doctor." As such he won the respect and genuine affection of many families in Dartmouth. He will be sadly missed in the Town, which he loved so well.

G. G. G.

Dr. Frederick William Green died in the Glace Bay General Hospital, January 24th, where he had been a patient for the past year, with chronic heart trouble.

He was born in Port Maitland, Nova Scotia, seventy-five years ago, but when quite young his family moved to Pictou, where he had his early schooling, and for a time was on the staff of Ferguson's Drugstore. He then went to McGill University, where he graduated in 1902, and went to practise with the late Dr. (Senator) William MacKay of Reserve Mines. After two years in general practice, he went to Edinborough where he took his M.R.C.S. degree, returning to Glace Bay to take over the practice recently vacated by Dr. Hazzard, and carried on this large medical and surgical practice until his retirement in 1937, when he went to New Glasgow to live. After residing there for three years he returned to Glace Bay and had charge of the Glace Bay General Hospital Tuberculosis unit until ill health caused him to retire.

He was married in 1910 to Daisy Jones, formerly of Brest, France, who survives him, also one daughter, Marguerite, who is now on the staff of the Toronto Military Hospital. He was a member of the Masonic and Orange Orders.

He was noted for his skill as a surgeon, and though of a retiring disposition, he had the friendship and good will of all his medical conferees. His original wit and humour continually amused both patients and doctors.

He was buried in Greenwood Cemetery, Glace Bay, under direction of the Masonic Order.

A. C.