

The Painful Stiff Shoulder *

DR. J. A. NOBLE

SHOULDER and arm pain is a condition affecting adults in all walks of life, and is therefore of interest to both physicians and surgeons engaged in the general care of patients. Everyone here I am sure, has had to deal with varying types of the painful, stiff shoulder, and appreciates that it can be a most painful and crippling disability.

In the past there has been much confusion of thought regarding the underlying pathological state and many terms such as fibrositis, peri-arthritis, bursitis and frozen shoulder have been loosely ascribed to lesions in this part.

At the outset, with the help of lantern slides, I shall recall some of the important anatomical considerations relating to the shoulder joint. Because of the shallow glenoid cavity, and the lack of strong ligamentous support, this joint depends for strength, particularly on the musculotendinous attachments of the four short intrinsic muscles which pass across the joint from the scapula, blending and fusing in the contiguous margins of their tendinous insertions. This combined tendinous structure has been called the musculotendinous cuff. It is a vulnerable part of the shoulder joint apparatus, and is frequently the seat of degenerative and traumatic lesions.

Another feature of this articulation is the large and constant bursa, a real synovial cavity, lying directly below the acromion and coraco-acromial ligament. This structure is intimately attached in its floor to the musculotendinous cuff. In addition to being a prey to the usual pathological states common to all bursal cavities, it is frequently secondarily involved by lesions arising in the subjacent tendons.

The unyielding acromion, and the almost equally unyielding coraco-acromial ligament, form a rigid roof over the top of the bursa, so that enlargement or swelling of the structures beneath constitutes a mechanical embarrassment to normal movement.

From the strictly surgical viewpoint we are concerned with the method of approach to this area—one which will avoid damage to the circumflex nerve, and preserve the integrity of the all important deltoid muscle, which covers the whole area as a cowl.

Shoulder pain, with or without radiation down the arm and to the fingers, is most frequently encountered in older adults, and it is important, before fixing one's attention to the immediate structure to which the pain is centred, to examine for all possible extraneous causes. We must be mindful of the thorax and its boundaries, and of the lesions that might be found therein, with pain referred to the somatic structures.

Any space filling lesion of the upper thoracic inlet or superior pulmonary sulcus, producing a Horner's Syndrome from involvement of the cervical sympathetic nerves, and with evidence of vascular compression of the subclavian vessels, may produce its first manifestation by pressure on the brachial plexus with pain in the shoulder and arm. An X-ray will reveal the cause of this disorder.

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Pain of cardiac origin may be missed without the aid of electrocardiographic studies. This pain, when referred to the arm, is nearly always along the ulnar aspect, and is associated with body effort.

Similarly, spasm in the oesophagus, and irritation to the diaphragm, may produce referred pain in the upper extremity.

The table lists the neurological causes of pain which may be felt in the shoulder. Pressure on the nerve roots in the intervertebral canals is the commonest, and brings to mind the cardinal features of root pain. Fairly recently an Ex-Naval rating came under our care at Camp Hill Hospital. In addition to pain in the shoulder and arm he demonstrated evidence of sensory loss and motor weakness as well. Eventually a positive diagnosis of Actinomycosis was made, the inflammatory process extending along the nerve roots of the brachial plexus. He responded well, and recovered, under treatment with massive doses of sulphathiazole and penicillin.

The orthopaedic causes are numerous as can be seen from the table. This summary has been made by Herman Young at the Mayo Clinic. Tonight I wish to stress those pathological states in the shoulder joint itself, or in the adjacent structures.

Nicola found that in a series of 100 cases the aetiology was as indicated in the table shown on the slide. It will be seen that in half the cases the disorder may be found in the musculotendinous cuff.

Dr. Harrison McLaughlin, on the Fracture Service of the Presbyterian Hospital in New York, studied over 3,000 cases of shoulder injuries with a 90% complete follow up over 10 years. In this vast experience over half the cases were found to be varying types of calcification of the tendinous cuff.

My remarks will therefore concentrate on this type of disorder—lesions of the musculotendinous cuff. It is impossible however to dissociate the two modalities, pain and stiffness. They are to a varying degree, inseparable. Each contributes to, and indeed may be responsible for, the persistence of the other. The diagram shows some of the commoner shoulder joint lesions and the relation of pain and stiffness to each. Any successful treatment applied to the underlying pathological condition, in all instances of shoulder pain, cannot exclude measures to prevent, or relieve, associated stiffness.

I should like you to consider with me, very briefly, three aspects of this subject. With your permission, and if time permits, I shall leave the commonest of these—calcific deposits—until the last, when we shall see a moving picture film.

The second consideration is the group of conditions pertaining to the musculotendinous cuff.

Because of the architectural arrangement of the bony parts at the top of the shoulder, the tendons of the supraspinatus, infraspinatus, and teres minor muscles are constantly subjected to pressure, friction, excessive wear and tear, and eventually they become the seat of attritional changes, with degeneration and weakness.

McLaughlin describes three types of lesions:

(a) Minute traumata, caused by constant friction on tendons rubbing between acromion and humerus. Here the essential clinical feature of the degenerative changes is the accompanying inflammation in the adjacent

bursa, which becomes thickened from chronic inflammation. This produces a mechanical obstruction when the arm is being forced back beneath the acromio-clavicular ligament.

The progress in this type of lesion is characterized by spontaneous remissions. Palliative treatment will give temporary relief only. Excessive movements aggravate the pain. Prolonged rest promotes adhesions and stiffness. Therefore in treatment one adopts a midway plan, providing local relief of symptoms and maintaining use of the arm up to the limits of pain.

Operation is indicated only if the symptoms are severe. The aim is to remove the irritating sources and excision of the bursa. In the more severe forms, resecting the outer half or third of the acromion, with division of the coraco-acromial ligament are required.

(b) Minor degrees of tear of the musculotendinous cuff. It used to be thought that tear or rupture of the supraspinatus tendon resulted in inability to initiate abduction. McLaughlin claims that any lesion up to 1" in extent is compensated by the action of the adjacent tendons, which are intimately attached at their margins, so that there is no functional loss of motor power. When, in a particular phase of arm rotation, this torn portion of the continuous cuff occupies the superior segment, it constitutes a mechanical block to abduction movements. The signs and symptoms are not those of lost motor function, but rather are due to an internal derangement of what has been called the subacromial joint. Localized tenderness, pain and weakness, and a painful jog and wince on abduction movements are characteristic. This type of lesion is not self limiting, rather it is irreversible, and in fact it tends to become more extensive, the adjacent tendons pulling the edges of the gap farther and farther apart. In addition to the features mentioned, there are symptoms of the bursitis complex, and more or less evidence of internal derangement of the subacromial joint.

(c) The third class of tendon cuff lesion is one in which there is a *functional defect due to lost motor power*. These consist of complete thickness tears measuring more than 3 cms. The evidence of the functional defect is either the inability to abduct the arm or the inability to maintain the abduction against two finger resistance. In addition to these signs, evidence of accompanying bursitis and of subacromial joint derangement are present.

As to the treatment of these last two groups;—In the majority of cases, under adequate conservative treatment the symptoms will subside. Conservative therapy has nothing specific to offer other than maintaining active movements. Surgery is indicated only when the duration and severity of the symptoms justify this procedure. At operation the internal derangement is looked after by excision and repair of the loose tendon tab and the functional defect corrected by reinsertion of the remaining intact tendon. Because the shoulder joint does not demand stability, great liberties may be taken in removing mechanical barriers to free movement—the acromion and the coraco-acromial ligament.

In repairing the tendon tear which has produced a loss of movement two principles are observed. The first concerns the degenerated state of the tendon. Excision back to healthy tissues is imperative. The second concerns avoidance of tension in reinserting the freshly prepared tendon. It will be impossible to reach its former anchorage. A new trough or gutter is made

more medially, on the articular head of the humerus, so that anchorage can be achieved without tension and without the necessity of maintaining the arm in the abducted position.

The second aspect of this subject has to do with adhesions or stiffness. The accompanying slide shows, by diagram, the sites of such fibrous tissue reaction. The prevention of adhesions is a most absorbing subject in itself, but time allows me to consider only the treatment of the established adhesion syndrome. The former has to do with keeping the shoulder moving; the latter, with getting the shoulder moving.

It is most difficult, if not impossible, to achieve this without the assistance of trained physiotherapists, and constant daily attention. There is no bonesetters' knack, or twist of secret character. It is a simple matter of either a repeated gradual stretching and partial separation, or of massive and complete disruption of the restraining tissue. In other words there are two schools of practice. The safer method is that of repeated small manipulations, obtaining increased range of movements on each occasion, and subsequently maintaining and consolidating the movements gained, by active exercises. These may be obtained by using short lasting general anaesthesia. Each procedure must be considered as a fresh mechanical injury, followed by exudate, pain and inhibited movements from muscle spasm. So that even with these minor procedures the prompt and energetic application of local and general sedatives are required in order to obtain the early active movement so necessary for recovery.

The other method is that of complete mobilizing of the stiffened joint at one sitting. This is an assault on the soft tissues of great magnitude, calling for fortitude on the parts of patient and operator alike. The reaction is extreme, demanding repeated doses of morphine or like substances, and a most energetic application of physiotherapeutic measures two or three times a day. It necessitates continued hospital care.

The dangers of fracture, dislocation, and of realighting and old inflammatory process, and of severe shock must be remembered.

In many cases the patient, no matter how cooperative, just doesn't seem able to get shoulder movements started. After a partial mobilization, under anaesthesia, he can frequently carry on by himself with active exercises.

The third aspect of this subject has to do with calcific deposits. These we now know develop as a part of the degenerative process in the tendons of the rotator cuff. They may or may not cause symptoms. In the acute phase the condition is a self limiting one and eventually will disappear spontaneously no matter what treatment is given. But during this acute phase the symptoms are severely crippling and painful, and the aftermath of adhesions and stiffness is liable to leave a chronic disability.

Relief is spontaneously achieved when the deposit ruptures into the sub-acromial bursa, when the substance is eventually absorbed.

The chronic phase is liable to acute exacerbations.

Treatment is either conservative or operative. The film deals with the operative procedure. It gives prompt and lasting relief.

Under conservative therapy the three most useful procedures are:

(1) *Deep X-ray therapy.* After several applications, pain disappears, the deposit is absorbed and recovery ensues. In some cases this may fail.

(2) *Manipulation.* The purpose of this is to cause a rupture of the deposit into the bursa.

(3) *Needling with the injection of procain into the deposit.* This consists of making multiple punctures into the substance of the tendinous rotator cuff with the object of causing escape of the calcific material into the bursar.

It is probably most likely that absorption and cure take place as a result of the hyperaemia induced.

Two points are worth remembering. The early relief of symptoms and restored mobility to the arm are short lived. In a few hours the pain returns—worse than ever. One is not to be discouraged by this—it is the customary finding. If local and general sedatives are prescribed the acute exacerbation subsides.

The other point is the absolute necessity to follow up the procain infiltration with gentle manipulation and to persist with active movements, daily for a period up to 10 days.

Apology: It is regretted that it has been impossible to reproduce the diagrams and tables referred to in the text.

"Medicine Hat"

H. L. SCAMMELL

A STRANGE lad was Bobbie Buchanan when he went to the old Halifax Medical College—strange in the effect he had on his classmates. Quick to react to his innate conceit, they lost no opportunity to ridicule him. There was the first day in the Anatomy room—a day long remembered by every medical student. Bobbie made his way with the rest to the dark attic of the old Dalhousie College on the Grand Parade where the dissecting room was located and, like the Duke of Kent's famous Ten Thousand, promptly marched down again without his breakfast. To his hardier classmates who gathered around him afterwards, he remarked that he would not return to that place until he "became used to it."

As his first attempts as a student met with such slight success, he went to Edinburgh, but after a year or two there returned to Halifax. Unknown in Edinburgh, his conceit had a chance to assert itself and he appeared this time at the College wearing a "topper." With the background of a newly developing West in their minds, the students at once dubbed him, "Medicine Hat," and the name stuck as long as he remained there. This was not for long, as he soon left to complete his medical education and eventually to qualify in the United States. So in 1887 we find him, Dr. Robert W. Buchanan, married to John Patterson's daughter of Halifax, occupying a house on 11th Street West in New York City. At that time he had one daughter.

✕ It is not surprising that he had "hard going." His paranoid personality did not lend to his popularity and his "hit or miss" medical education would not lead one to believe that his skill was of a high order. As with every young practitioner many of his patients were from the lower social strata. He was discontented, and while in this mood he fell in with Mrs. Annie B. Sutherland of Newark, New Jersey. How they first met we do not know. Her name suggests the chance that her deceased husband was a native of Nova Scotia, and perhaps known to Buchanan. On the other hand he may have met her professionally as we are left with the none too gentle inference that she was the proprietress of a house of ill fame. In any case she was rough, homely, ill-natured, poorly educated and at least twenty years older than Buchanan, who was born in 1860. However, with all her shortcomings she had prospered in a material way, and there is little doubt that the doctor in his impoverished circumstances looked upon her as a bird fit for plucking. ✕

In 1890, Mrs. Buchanan left her husband and returned to Halifax, leaving their daughter in her father's care. He applied for a divorce on grounds of desertion which was granted on November 12, 1890. Seventeen days later he married Mrs. Sutherland, at Newark, the bride remaining at her place of business while the bridegroom returned to his New York domicile. This affair he kept strictly to himself.

Had he been as discreet in another matter it might have thrown a different aspect on what followed. He had developed a friendship with Richard Macomber, a business man in his vicinity. On November 27, 1890, two days before his marriage to Annie, he persuaded this friend to go with him to Newark to witness her will. Her affection for Buchanan was then quite evident. It was likewise evident in the will which she proceeded to read to

them both. It stated that in the event of her death all her property was to go to her husband—if she had a husband—or if not to her friend and beloved physician, Dr. Robert Buchanan. As we have seen, Bobbie was taking no chances. He had filled all the gaps.

But Annie it appeared had her own ideas of marriage. A chance at respectability as the wife of a young husband, and a physician at that, appealed to her. She sold her house in Newark for \$9500.00 turning it over to Buchanan, who promptly invested it by purchasing the home in which he lived. Annie moved in soon afterwards.

It is probable that this was quite a disappointment to Bobbie. He would divorce his beautiful wife and marry this beldame for her money willingly, as long as she kept at arms length, but to establish her in his home as Mrs. Robert W. Buchanan was another story altogether. He told his friends and acquaintances that she was his housekeeper. This was not good enough for Annie. Stormy scenes followed. Annie proved to have a violent temper and a comprehensively abusive vocabulary. To her threat that she would poison herself, Bobbie retorted with the helpful suggestion that she make the threat good as she knew where the poisons were kept in his office. No doubt by this time his wife had awakened to the true state of affairs.

From time to time Buchanan told his troubles to Macomber, who kept a restaurant, perhaps over a meal. The violent scenes were re-enacted. Macomber took the daughter to stay with him in order to avoid the outbursts of the virago. Bobbie confided that since Annie knew where the poisons were kept, he was not too sure of his own safety. He decided to eat regularly at the restaurant, or with the Macomber family. Annie's will was discussed and the chances that she might change it were speculated upon.

She became violently ill on April 22, 1892, with a sense of constriction of the throat and other symptoms which were labelled hysterical by Buchanan and by Dr. B. C. McIntyre, a fellow physician whom he summoned. Sedatives were prescribed. Dr. H. P. Watson was also called at her husband's suggestion who agreed with his confreres. They left with the greatest optimism that she would be well in the morning. Next morning to their amazement she was dead. They both signed her death certificate to the effect that she had died from a cerebral haemorrhage.

Buchanan acted quickly. He buried her almost in a pauper's grave, realized on her estate which was in excess of thirty thousand dollars, closed his house on 11th Street West, and left for Halifax. Here he began practice at once, perhaps the first panel practice in Halifax. An old lady still remembers him as "the Five Cent Doctor" because at the cloth factory where she worked, each girl put that amount each week into Bobbie's pre-payment medical scheme. It must have been a period of great mental unrest. To soothe it, he remarried his first bride.

Meanwhile the Fates were conspiring in New York for his downfall. An old friend of Annie's, James M. Smith, partner for many years in her exploits, began to voice his suspicions to the newspapers. A reporter came to Halifax where he found that Buchanan had remarried, though when interviewed he attempted a denial. Suspicion now ran high.

Had he remained where he was, Bobbie's fate might have been averted. He might have fought extradition with success. Rather, accompanied by his wife he returned to New York. There may have been two reasons for this.

He probably felt that it would be wise to dispose of his house before the hue and cry got too close. In addition, vanity demanded that Dr. Robert Buchanan should face his traducers and annihilate them. He told his friend Macomber that Annie had been a morphine addict, which was likely true, and if her body were exhumed this narcotic would undoubtedly be found. He wondered if it would be well to get out of New York. But again the ego asserted itself, and he boasted, stimulated perhaps by alcohol, that he knew how to counteract the contracted pupil of morphine poisoning by the use of belladonna. This happened when the case which now had attained notoriety was being discussed in his presence. An autopsy was performed and it showed that Annie had been killed by an overdose of morphia. Both Dr. McIntyre and Dr. Watson certified that when they examined the woman her pupils were normal. Looking back on it now it would appear that she died from an overdose of morphine, strychnine and belladonna. Perhaps the latter drug was never used. It is otherwise hard to understand the convulsive symptoms and rigidity which could not have been caused by morphine and which the doctors attributed to hysteria.

x The trial began on March 20, 1893. The junior attorney for the defence, William J. O'Sullivan, was formerly a physician. He so confused the witnesses for the prosecution that when its case closed, there seemed no doubt whatever that the jury would find Buchanan innocent. But the world counted without including Bobbie. He must go on the witness stand; he must not only prove his innocence, he must make it a triumph for Dr. Robert Buchanan. A few minutes later he left the witness stand, a quivering wreck from a relentless cross examination which he need never have faced. The jury found him guilty of first degree murder on April 25th. Two appeals went to the Court of Appeals and one to the Supreme Court of the United States—all without success. He was executed on July 2, 1895.

Reviewing this case one or two things stand out clearly: In the first place Buchanan was not clever. He made four attempts before he completed his medical course. In the second place his paranoid personality hindered his medical career, and eventually brought him to the electric chair. It makes extremely relevant the proposition that all students intending to study medicine should have a careful psychiatric study beforehand. It again places emphasis on the elimination of the man who repeatedly fails before he has gone so far that he must become a doctor or his career is a failure. Finally it places squarely on the shoulders of all teachers of medicine the necessity of imparting with knowledge a generous dose of idealism and human decency, attributes which never appear to have penetrated the soul of this unfortunate man.

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Editorial Comment

THIS number of the BULLETIN has been tuned to the lethargy of summer-time: a bit of history, a bit of serious and helpful material, along with two articles from the *Maritime Medical News* of 1902. The latter have been deliberately chosen to bring home to the reflective mind how far we have gone in less than half a century in the field of surgery and of public health. Dr. VanWart of Fredericton, was a man small of stature but mighty of achievement, who lived over thirty years after this article was written, and saw as common practice the principle which he so fervently advocated. Dr. Macdonald was a small village and country practitioner, whose thinking was a quarter of a century ahead of his time. At every meeting of a medical society he constantly pressed the point that "prevention was the cure of tuberculosis." To his good humoured but mildly scoffing brethren he was known as "Consumption Macdonald." His little paper is presented as a tribute to the memory of a sensible country practitioner, who applied common sense and experience to solve a gigantic problem.

It is hoped that this departure from our more serious menu will not prove unwelcome at this season of the year.

H. L. S.

Plea for the Surgical Treatment of Appendicitis*

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Fredericton, N. B.

MUCH has been written and said on the subject of appendicitis. I shall make no attempt to treat the subject *in extenso*, but rather base my remarks on personal experience, with no references to text books, etc.

We may classify diseases of the vermiform appendix in point of time, as primary diseases and recurrent. Clear cut symptoms are not present in every case,—this being particularly true in the first twenty-four hours of the disease. The tripod of symptoms which prevent an error in diagnosis are:

1. Pain: at first, sudden and acute, referred to the epigastric or umbilical regions; later becomes localized over the site of the appendix.
2. Rigidity: this follows the localization of pain and is most marked in the right lower quadrant of the abdomen.
3. Tenderness in the right lower quadrant of the abdomen: this being a constant symptom from the beginning of the attack.

Pain at first colicky is most marked in acute cases and may last only few hours: as in those cases where pus forms rapidly. Tenderness is the most constant of these symptoms as would be expected from the fact that inflammation is present. The point of maximum tenderness is always between the attachment of the appendix to the caecum and its apex. In recurrent attacks the only positive symptom is tenderness; and when these attacks are mild, diagnosis is often difficult, particularly so in the female sex. In cases that are seen early the position of the appendix can be determined, but if the organ contains pus and the sac has ruptured, its location becomes a more difficult matter.

It is not my intention to enter into the minutiae of differential diagnosis. Obscure cases of enteric fever may sometimes be confounded with an attack of appendicitis, since pain in the ileo-caecal region is present in the early stages of both diseases: but the pain is less acute in the former and there is not the muscular rigidity. Influenza of the digestive type is often at first confounded with a mild attack of appendicitis. Many cases of indigestion are the reflex symptoms of an inflamed appendix.

To illustrate: H. G. L., male, aged 24, consulted me in April, 1901, for indigestion. I learned from him that "just two years before he had suffered from a severe attack of cramps which left him sore." He had been taking remedies with more or less regularity up to the time of consulting me. During an acute exacerbation he would have nausea, vomiting and abdominal pain, and was improving from such an attack when I first saw him. On examination I found marked tenderness about the so-called "McBurney's point", with temperature and pulse normal. The patient consented to an operation and was at once removed to the Victoria Public Hospital. The appendix was found post-caecal, pointing toward the liver and adhering to the caecum. Two faecal concretions were present, walled off at the distal end of the appendix, the latter showing marked chronic inflammation. An uninterrupted recovery

*Read before meeting of Maritime Medical Association, Charlottetown, July, 1902, and reprinted from *Maritime Medical News*, November, 1902.

followed the removal of the appendix and there has been no recurrence of his former trouble.

The thermometer should not be relied upon for much assistance in diagnosis, since in the presence of pus there may be little or no rise of temperature. To illustrate: R. B., male aged 12, after considerable physical exertion suddenly developed intense pain in the abdomen. He had tenderness at first about the umbilicus. At the beginning of the third day the maximum point of tenderness was two inches below the edge of the liver in the right hypochondriac region. Third day, temperature normal, pulse 90. I advised immediate operation, and found the appendix posterior and to the inner side of the ascending colon, with a length of four and a half inches. The distal end contained a sac of pus and was on the verge of breaking; but no adhesions were found. The appendix was removed and the patient made a rapid recovery. To further illustrate: Mrs. F. C. H., aged 26. In this case the temperature never rose above 100° Fah., and the pulse was never below 110. The patient was operated on at the beginning of the third day, the appendix being found ruptured and gangrenous with deposits of septic lymph on the neighbouring parts. Prompt operation, removal of the appendix, and thorough irrigation of the infected area saved this patient's life.

As a cause: I have noticed that attacks have followed undue physical exertion as illustrated in case number 2 of this paper. The anatomical position of the vermiform appendix on the psoas muscle and the caecum filled with faeces is to my mind a sufficient cause to produce an irritated condition of this organ. Constipation was present in a majority of cases. In none of my cases have I found sufficient evidence to warrant the conclusion that an attack may be precipitated by over-eating. There is in my opinion a close relationship between appendicitis and tuberculosis: fully twenty-five per cent of my cases occurring in families of tubercular tendencies.

After opening the abdominal cavity I have always been able to find the appendix except in those cases where it has sloughed off. Behind and to the inner side of the caecum is the most common position. In but one case have I found it to the outer side of the caecum. I have never found the appendix pointing toward the pelvic cavity except in the female sex.

Three cases that had been allowed to go on to pus formation and the abscess cavities drained but the appendices not removed, subsequently came under my care for operation. In two of these cases the appendices were found small, contracted and curled on themselves and adhering posteriorly to the caecum. In the third case the appendix was large, inflamed and contained pus, being bound down by adhesions to the outer side of the caecum. A rapid recovery followed the removal of the appendix in each case.

Should the appendix be removed in every case when the abscess is drained? It is not always possible to do so and even when possible is not always safe. In cases where the cavity is imperfectly walled off I would hesitate to disturb the parts; but should temporarily treat the abscess by irrigation and drainage. On the other hand where the cavity is well walled off, my treatment is to remove the appendix. Cases that are seen early and under constant observation and allowed to go on to pus formation with rupture are, in my opinion, improperly treated. It is needless to say that it is no uncommon thing to find an abscess at the first examination. I have seen cases in consultation where the attending physician, knowing that an abscess

was present, hesitated about operating but preferred to wait hoping that the patient would improve under rest and medical treatment, thus totally ignoring the surgical principle that pus must have vent. An abscess should be suspected when tenderness and pain continues, vomiting persists or distinct tumor felt. A rapid pulse is a reliable sign of suppuration. I have never seen a chill to denote that pus was forming. The case in which the symptoms do not subside in thirty-six hours from onset of the disease is an operative one.

The idea of this paper is to suggest early operation in inflammation of the vermiform appendix whether catarrhal or suppurative. If early operation is insisted on the pus cases with faecal fistula and other annoying complications would not exist. The question is asked: "Should we operate in every case?" When the peritoneum is affected and distended, skin leaky, temperature subnormal, pulse rapid, feeble and compressible, my answer is negative. In cases of this nature the system is overrun with sepsis and a general anaesthetic produces too great a shock. In such a condition I would prefer to use a local anaesthetic, opening the abdominal wall and irrigating as much as possible by means of a normal saline solution.

The arterial supply of the appendix is from the mesenteric artery which may be compared to the trunk of a tree with its branches. By ligating the trunk all supply to the appendix is cut off and this makes practically a bloodless operation. I prefer ligating the artery and tying off the appendix with chromicized catgut, closing the abdominal incision with silk-worm gut, and covering the stump with serous membrane if possible.

I am not an advocate of gauze drainage in appendicitis operations. This frequently causes excessive exudation of lymph which may result in annoying peritoneal adhesions and lifelong discomfort to the patient. Its use leaves a weak spot in the abdominal wall inviting the development of hernia. It also acts as a foreign body; and I have known it to depress a patient as well as prolong the condition of shock. Iodoform gauze does not drain well and is very apt to cause iodoform poisoning. If the greater part of the toxic material be removed by careful irrigation the lymphatics and leucocytes will attend to the rest much better than the surgeon with any complicated device.

When I see a case in its early stages I try to avoid the use of opium and its alkaloids, since it locks up all the secretions except that of the skin and masks the progress of the case. Morphia may be used in small doses if the pain is very great. Fractional doses of hydrargyri chloridi mitis *cum* sodii bicarbonatis may be given to arrest the nausea and clear out the digestive tract, while enemas of soap suds with turpentine are found effective. The advantage of having the intestinal tract empty during an operation is plain to any surgeon.

After Treatment. I do not give morphia for the reason already stated. Although the patient complains of pain it does not last longer than fifteen or eighteen hours. Cases do best on a liquid diet from ten to fourteen days. I have noticed that the tongue is much coated, and the breath offensive in some cases even in the presence of normal pulse and temperature and the patient on the road to rapid convalescence.

The following is copied from my case book: F. M., male age 17, labourer. Previously in good health with no former serious illness. Week before consulting me had cramps for two days. Said he got some better. Constipation from that attack until I saw him November 15, 1901: Night of November

14, 1901, attack of cramps, suffered all night. November 15th, 11 a.m. temperature 100°, pulse 100. Cramps and rigidity of abdominal muscles. Ordered turpentine stupes, enemas and fractional doses of calomel. Pain so great forced to give 1/8 grain of morphia hypodermically; 5 p.m. patient still in pain, enemas effective. Had to give another 1/8 grain of morphia hypodermically. Advised immediate operation. Patient consented. Operated on at Victoria Public Hospital at midnight. Abdomen scaphoid. Tenderness greatest above McBurney's point. Incision two inches long. Appendix found post-caecal, pointing upwards with abscess in distal end ready to break. Appendix removed with ease. Wound closed. Temperature normal on third day after operation and continued so all through convalescent period. All of superficial and part of deep sutures removed on fifth day. Remaining deep ones on seventh day. Wound not dressed again until the twenty-first day. On the twenty-first day patient fitted with abdominal pad; left hospital cured.

In conclusion I may say that my only cause for regret has been not that I operated upon a case of appendicitis but that I did not operate earlier.

POSITION VACANT

Graduate in medicine and surgery to do general practice with a group either as a locum or with a view to partnership. Apply stating qualifications to Dartmouth Medical Centre, Dartmouth, N. S.

ERRATA

On page 126 of the May edition of the Nova Scotia Medical Bulletin Doctor H. G. Grant is quoted as saying in answer to the question of Doctor Eric W. Macdonald regarding the cost of administration in Ontario that it was 38%. This is an error on the part of the printer, and should be 3.8%.

The Duty of the Medical Profession in the Prevention of Tuberculosis

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Hopewell, N. S.

THAT tuberculosis is a contagious disease is an established fact. For many years evidence of its contagious nature has been recognized by many physicians and others.

That the facilities for propagating and spreading the disease are almost unlimited is well known though not seriously appreciated. It is such a common universal disease, always everywhere in evidence, that people become so familiar with it that the fear of contagion is lost. That "familiarity breeds contempt," is well exemplified in this case.

That it is not hereditary is pretty generally understood. That tuberculosis is a veritable plague, decimating to a large extent the population of our country, being responsible for nearly twenty-five per cent of deaths from all causes in the Dominion of Canada is known.

It is also well known that this universally prevalent disease is preventable. If the above statements are true, if all this and more has for many years been known, we would naturally expect that practical efforts would have been made for the prevention of the disease, and that the medical profession as a body would have taken the initiative and kept up the agitation until the object sought was obtained. With the concerted action of so influential a body there could be no such a thing as failure. We all know the magnitude of the task with which we would have to grapple, as well as the necessity for action. What have we done? So far as I can hear no practical, concerted action has been taken by any medical organization in the Dominion for the prevention of tuberculosis. There has I admit, been some talk, some writing, and lately a flourish of some large calibre trumpets whose strains were of high pitch and good tone; may we not hope that some practical good may result therefrom.

The Nova Scotia Provincial Board of Health has done a little "marking time." It proclaimed tuberculosis a contagious disease. Very good! It had leaflets printed for, I presume, the information—the education of the public re contagious diseases. A few of these were sent, I suppose, to the members of the medical profession throughout the country, perhaps to others. How many of them found their way into the hands of the people would be difficult to determine. Besides this certain recommendations were made by the Board to our legislature, for which the credit should be given. The Board if I remember rightly asked our legislature for an appropriation for a sanatorium for the treatment of tuberculous patients which was readily granted. How many years it will take to find a location for the sanatorium and get it built is difficult to predict. Sanatoria are most useful institutions if conducted upon right principles, for the treatment of tuberculosis. They are, however, of limited use in the way of prevention. While the contagion is allowed to be freely provided and as freely distributed we may go on building sanatoria for

*Read at meeting of the Maritime Medical Association, Halifax, July 4, 1901. Reprinted from *Maritime Medical News*, January, 1902.

the accommodation of the manufactured article, for the prevention will be about nil. Sanatoria or consumptive homes for incurables especially for the poor would be of more service and a very large percentage of the contagious matter would be removed from general distribution, which would mean decided prevention.

In order to accomplish anything definite in the work of prevention certain legislation is necessary, viz:

1. To prohibit spitting on the streets, in all public buildings, wherever people congregate, and all public conveyances.
2. To provide for sanitary inspection of all public buildings and public conveyances.
3. To prohibit tuberculous persons from teaching in our educational institutions.
4. That all teachers, from those teaching in our primary schools to the university professor, shall be subject to medical examination and have a clean bill of health before being allowed to teach. The medical examination to be repeated every two years.
5. Also medical examination of all students attending public schools of all kinds. All tuberculous teachers and pupils should be prohibited entering the public schools. It is well known that our schools are prolific centres of infectious diseases.
6. Sanitary inspection of school buildings and premises as well as medical inspection of those attending schools is necessary.
7. Sanitary inspection of all places where food supplies are prepared and sold and medical examination of all persons employed in and about such places. The coughing, spitting consumptive must be prohibited from handling and coughing over our groceries and baking our bread.

It is well known that the animals from which we get a very large portion of our food supply are infected with tuberculosis; it is therefore necessary that these animals be carefully examined, and sanitary inspection made of the places where they are kept. Especially is it necessary to inspect our dairy stock, that the cows from which we get our milk should be perfectly healthy and free from tuberculosis. Sanitary inspection of dairies, creameries, cheese factories and products of these places. Tuberculous persons should be prohibited from working with and handling milk and its products. There is no article of food so generally used as milk. Children are largely fed upon milk; hence the necessity of having a pure article free from germs.

This is a partial outline of the means to be used and the legislation required for the prevention of tuberculosis.

The trend of ideas in this country seems to run upon the building of sanatoria for the cure for consumption. This is I think a mistake. Home treatment, outdoor or fresh air treatment, particularly among the well-to-do can be practised with as good results as can be gotten anywhere. Over thirty year's experience in the treatment of this disease on the home, outdoor plan warrants the above opinion. It is very important to know how best to treat consumption but it is of far greater importance to prevent the disease. By proper effective, preventive measures, including homes or hospitals for poor incurables, in a few years tuberculosis would be among the rare diseases.

Are we as a profession ready and willing to take concerted action to secure measures for practical prevention of this plague?

It may be, has been, said that the preventive measures indicated would be oppressive interfering too much with the liberty of the citizen. Looked at in this way all the laws that make a country safe to live in are oppressive. The law says thou shalt not steal, yet the thief plies his business. In every community there are those who evade or openly break the laws of the country, still the law is good and society could not exist without it. If it is oppressive to restrain the consumptive from endangering the lives of his neighbours, it is also oppressive to prevent the assassin from shooting his victim; the former endangering the lives of all with whom he comes in contact besides inflicting long drawn out misery not only upon those whom he may infect but on others also; the latter kills his victim and there is an end to the suffering. We cannot hang the consumptive but we can hang the murderer. The former is more dangerous than the latter.

But restraint need not be oppressive; the consumptive when informed how to avoid giving the disease to others can mingle with others safely provided he complies with stipulated regulations with which every consumptive should be provided.

I believe it is a positive crime for coughing, spitting consumptives to be allowed to prepare, handle and cough over our food supplies. Consumptives mouths are never free from contagious matter, their hands seldom. Is the country, are the people ready for such legislation and restraint as above outlined? Were people ever ready for any reform although it were for their good? History says no! It is said that the country must be educated to the necessity of legislative prevention. How are the people to be educated, and who are to do the educating? It cannot be done by the medical press which is not in the hands of the people. The lay press has given the subject some attention but its teaching is not always in the right direction. The profession might use the press to some advantage.

I think our better course would be educate our legislators, professional politicians and others of our *governing* class. The people give themselves little concern about making of laws, until after they are made.

What is wanted now is a united medical profession asking legislation for prevention of tuberculosis. And in Nova Scotia, if we ask for it, showing the necessity for it, I believe we will get it.

Do the members of the medical profession in Nova Scotia, in the Maritime Provinces, in the Dominion believe in prevention, believe in its necessity? From past experience, I sometimes think the answer might be in the negative. It seems to me we are a slow moving people, afraid to move until the rest of the world pushes us onward.

The object of this rambling paper is to keep the subject of prevention in view, and if possible to induce a united medical profession, through our organizations, to take concerted action in procuring preventive legislation, and I believe we can get it, if not at once, then by persistent importunity.

**PROVISIONAL PROGRAMME OF NINETY-SIXTH ANNUAL
MEETING OF THE MEDICAL SOCIETY OF NOVA SCOTIA
WHITE POINT BEACH LODGE, WHITE POINT, N. S.
SEPTEMBER 6, 7, 8, 1949**

PROGRAMME

Tuesday, September 6th

- 5.30 to 7.30 p.m. Executive Meeting.
7.30 p.m. Registration.
8.00 p.m. First Business Session.

Wednesday, September 7th

- 9.00 a.m. Visiting of Booths.
9.30 a.m. Dr. D. L. C. Bingham, Department of Surgery, Kingston General Hospital, Kingston, "Intervertebral Disc Lesions in the Lumbar Region."
Discussion to be opened by Dr. J. C. Acker, Halifax, N. S.
10.30 a. m. Dr. Louis Wolff, Associate in Medicine, Harvard Medical School, Boston, "Diagnosis of Acute Myocardial Infarction."
Discussion to be opened by Dr. C. W. Holland, Halifax, N. S.
11.30 a.m. Dr. J. F. C. Anderson, President, Canadian Medical Association, Saskatoon, "Avoidable Errors in Diagnosis."
Discussion to be opened by
1.00 p.m. Luncheon.
Address by Sir Lionel Whitby, President, British Medical Association and Regius Professor of Physic, Department of Medicine, University of Cambridge, England, "Nationalized Medicine."
2.30 p.m. Dr. T. A. Lebbetter, Internal Medicine, Winnipeg Clinic, Winnipeg, "Group Medicine."
Discussion to be opened by Dr. H. A. Creighton, Lunenburg, N. S.
3.30 p.m. Paper, Representative, Nova Scotia Health Officers' Association. (Title to be announced).
Discussion to be opened by
4.30 p.m. Dr. D. L. C. Bingham, Department of Surgery, Kingston General Hospital, Kingston, "Varicose Veins."
Discussion to be opened by Dr. E. F. Ross, Halifax, N. S.
Evening Entertainment.

Thursday, September 8th

- 9.00 a.m. Sir Lionel Whitby, President, British Medical Association and Regius Professor of Physic, Department of Medicine, University of Cambridge, England, "The Common Anaemias."
Discussion to be opened by Dr. K. A. MacKenzie, Halifax, N. S.
- 10.00 a.m. Dr. Louis Wolff, Associate in Medicine, Harvard Medical School, Boston, "Management of Acute Myocardial Infarction".
Discussion to be opened by Dr. J. C. Wickwire, Liverpool, N. S.
- 11.00 a.m. Paper, Representative, Canadian Anaesthetist's Association. (Title to be announced).
- 12.00 noon Second Business Session.
Afternoon free for entertainment, golf, etc.
- 6.30 p.m. Reception by Presidents of The Medical Society of Nova Scotia and Lunenburg-Queens Medical Society and their wives.
- 7.30 p.m. Annual Dinner.
Presidential Address.
Address by Doctor J. F. C. Anderson, President, Canadian Medical Association, Saskatoon.
Dancing.

Society Meetings

Western Nova Scotia Medical Society

The annual meeting of the Western Nova Scotia Medical Society was held at Lakeside Inn, Yarmouth, N. S., on June 29th. We had a very fine dinner in the main dining-room followed by a business meeting in the sun room.

The following officers were elected for the 1949-50 period.

President—Dr. R. M. Caldwell, Yarmouth.

Vice-Presidents—Drs. R. M. Zwicker, Lockeport, P. H. LeBlanc, Little Brook and W. M. Phinney, Yarmouth.

Secretary-Treasurer—Dr. D. F. Macdonald, Yarmouth.

Representatives to the Executive of The Medical Society of Nova Scotia—Dr. H. J. Pothier, Weymouth, Dr. G. B. Shaw, Shelburne, and Dr. S. W. Williamson, Yarmouth.

Doctor P. E. Belliveau reported on the various executive meetings and on the discussion at the recent meetings of the Canadian Medical Association at Saskatoon. Doctor J. A. Webster gave a paper on "Pyuria." We then had a sound movie on Forceps Delivery and Episiotomy from DeLee's Clinic.

D. F. Macdonald
Secretary-Treasurer

Personal Interest Notes

DOCTOR H. A. Bird, who graduated from Dalhousie Medical School January 5, 1943, has been appointed assistant director of laboratories in New Brunswick, and will make his home in Saint John. He began special studies in pathology at Saint John with Doctor R. A. H. MacKeen, director of the Provincial Bureau of Laboratories, and spent one year there. He continued post-graduate work in Boston with Doctor H. E. MacMahon, professor of pathology and bacteriology at Tufts College Medical School for a two-year period.

The marriage took place at Springhill on June 4th, of Miss Olive Arlen, daughter of Mr. and Mrs. David Arthur Fraser of Springhill, and Doctor Garfield MacLeod Moffatt, son of Mr. and Mrs. John Moffatt of Sydney. Doctor Moffatt graduated from Dalhousie Medical School in 1947, and is now at Sunnybrook Hospital in Toronto.

Doctor D. G. Black who has been practising at Bear River has taken over the practice of Doctor E. D. Dickie at Digby, and Doctor D. S. Brennan, who graduated from Dalhousie Medical School last May, has taken over at Bear River.

The BULLETIN extends congratulations to Doctor and Mrs. R. A. G. Wood of Lunenburg on the birth of a daughter on May 19th, and to Doctor and Mrs. C. N. MacIntosh of Bass River (Norma Prentice) on the birth of a daughter, Theresa Lynn, on May 30th.

Doctor and Mrs. S. W. Williamson of Yarmouth were visiting in Toronto and other Canadian cities and Providence, R. I., early in June.

Doctor J. G. Wiswell, son of Doctor G. B. Wiswell of Halifax, who graduated from Dalhousie Medical School September 1, 1943, has been awarded a Research Fellowship by the American Cancer Society.

Doctor Gerald E. Davis, who graduated from Dalhousie Medical School in May of this year, is now associated with Doctor I. R. Sutherland at Annapolis Royal.

Doctor C. J. W. Beckwith, president of the Canadian Tuberculosis Association, is at present attending the British Commonwealth Conference on tuberculosis in London, England and the International Conference in Paris. In addition to attending the conferences he plans to make a survey of tuberculosis institutions in Great Britain.

Doctor T. M. Sieniewicz of Halifax attended the 15th annual meeting of the American College of Chest Physicians at Atlantic City early in June.

Doctor H. B. Ross of Halifax attended the annual meeting of the Canadian Society for the Study of Diseases of Children at the Thousand Isles Club, Thousand Isles, the middle of June.

Doctor and Mrs. H. K. MacDonald of Halifax celebrated the fiftieth anniversary of their wedding on June 7th, when they received many gifts and beautiful flowers including a purse of gold from friends present at the reception, and a silver tray from their children and grandchildren.

Doctor C. B. Stewart of Halifax was the guest speaker at the May meeting of the Halifax Dental Nurses' and Assistants' Association, when he gave an interesting address on "Poliomyelitis," telling of its origin, symptoms and treatment.

The Nova Scotia Association of Radiologists held their semi-annual meeting in Halifax on June first. Officers elected were: Doctor S. R. Johnston of Halifax as President, succeeding Doctor W. H. Eagar of Wolfville, Doctor H. R. Corbett of Sydney, Vice-President, and Doctor R. L. Smith of Halifax, Secretary-Treasurer.

Two Halifax men were elected Presidents of two national medical organizations at meetings held at Jasper Park, Alberta, on June 21st. Doctor H. B. Atlee was elected President of the Society of Obstetricians and Gynaecologists of Canada, and Doctor H. W. Schwartz was elected President of the Canadian Otolaryngological Society. Doctor K. M. Grant, also of Halifax, was elected Secretary-Treasurer of the former organization.

Obituary

THE death occurred at Cheticamp on June 11th of Doctor Moses Elijah McGarry at the age of sixty-eight. Doctor McGarry was born February 19, 1881, at Harvard Lakes in Inverness County, and lived near the spot where his paternal grandfather was shipwrecked on his way to Canada from Tipperary, Ireland. He had been in ill-health for some time and was admitted to the hospital at Cheticamp after undergoing treatment at Halifax. Doctor McGarry graduated from Dalhousie Medical School in 1908. He entered the Provincial Legislature in 1928 as a member for Inverness, and was re-elected at the general elections of 1933 and 1937. He was made Speaker of the House in 1939. In 1940 he entered the House of Commons as member for Inverness-Richmond, and carried that Federal seat for a second time in the general elections of 1945. Before the elections now in progress he retired due to ill-health. Doctor McGarry's wife, the former Florence Quinn of Sydney Mines, predeceased him three years ago, and two daughters died in infancy.

PHYSICIAN WANTED

A physician is wanted to locate at Moser River, Halifax County. The community has already provided a house and will aid in financing a car. Moser River is 23 miles from Sheet Harbour, where a new hospital has lately been opened. Further particulars may be obtained from the secretary.