

Pages Missing

Dominion Medical Monthly

And Ontario Medical Journal

VOL. XXXI.

TORONTO, NOVEMBER, 1908.

No. 5.

Original Articles.

HYDROTHERAPY IN MENTAL AND NERVOUS DISEASES.*

BY A. T. HOBBS, M.D.,

Superintendent Homewood Sanitarium, Guelph, Ont.

Winternitz, in his system of Physiologic Therapeutics, says, "Hydrotherapy is the systematic application of water at various temperatures and pressures and in varying forms to the surface of the body for dietetic, prophylactic and therapeutic purposes."

To properly carry out the principles of hydrotherapy, as laid down by Winternitz, it is necessary to have an apparatus whereby water may be applied at an exact dosage, that is, it must be capable of absolutely regulating temperature and pressure to suit the various conditions which we are called upon to treat, if we are to meet with success.

We are still in the embryonic stage, at the Homewood, as far as hydriatic treatment is concerned, having only had a year's experience with the apparatus, as designed by Simon Baruch, of New York City, but the results thus far obtained are very encouraging, and lead us to hope that much good may be done along the lines of hydrotherapy. I do not think that I can lay too much stress upon the fact that the treatment must be exact to be successful. Just as you give exact doses of drugs for certain conditions, so you give exact doses of water—you expect certain results to follow the dose of the drug—and you also expect certain results to follow your water dosage—therefore, I say, be exact.

* Read at Canadian Medical Association, Ottawa, June, 1908.

The good effects of this system of treatment can easily be nullified in the hands of unskilled and unintelligent operators; furthermore, each patient is a law unto himself and demands close study by the physicians and the bath attendant. Subjective symptoms cannot be entirely ignored, and sometimes too strict adherence to a definite prescription may do more harm than good, and the bath attendant must learn by experience to recognize any error in the prescription. On the other hand, however, due care must be taken that the patient does not lead physician and operator astray by misleading statements to their own detriment.

The rationale of treatment in cases ranging from the mildest form of neurasthenia to the gravest form of melancholia generally resolves itself into a question of suitable diet and its proper assimilation. I am well within the mark when I say that 80 per cent. of the mental and neurasthenic admissions to the Homewood, present, in addition to their many symptoms, an emaciated appearance, and a body weight much below par.

Any method of treatment that will improve assimilation in these neurotic and mental patients is a valuable adjunct to our armamentarium.

In hydrotherapy, scientifically applied, we have, without doubt, an aid to general treatment that will materially assist us in the recovery of our patients.

Time does not permit me to go extensively into the action of water on the various functions and organs of the body, but let me point out a few facts that can be easily demonstrated with the proper apparatus.

(A) *On the Circulation*:—Baruch says: "The circulatory system forms the great highway upon which the products for the maintenance and growth of the organism are conveyed, and by which the products of waste and repair incident to the performance of all functions are eliminated. It, therefore, follows that any agent which is capable of exercising the slightest influence upon an apparatus which is destined for these important tasks, must be capable of exercising in disease an analogous influence upon the organs and their functions, which come under the domain of its influence."

These are some of the effects of water so applied:—

Cold water applications cause rise of blood pressure.

Warm water applications cause fall of blood pressure.

Cold enhances the tone of the entire circulatory apparatus.

Warm diminishes the tone of the entire circulatory apparatus.

(B) *On the Composition of Blood.*—After cold there is an increase of red and white blood corpuscles and haemoglobin.

After hot air and steam baths a diminution followed by moderate increase in robust people.

(C) *On Respiration.*—The greatest irritation of the respiratory centre is produced by a cold application on chest and abdomen, then follow deeper respirations and an increased oxygen consumption, and a freer carbon dioxide elimination.

It must be noted, however, that after cold applications, respiration is affected by the extent to which reaction ensues; if the latter is good, then respiration becomes much deeper, and more air is inspired into the lungs.

If mechanical influences be added to thermic, as in douches, the effect upon the respiratory centre is much more enhanced.

(D) *On Muscular System.*—The fatigue curve is much increased by cold, that is, the working capacity is much improved.

Warm baths, unaccompanied by mechanical effect, lower the working capacity. Combined with mechanical effect warm baths increase working capacity, but not to the same extent as cold, or alternating hot and cold.

(E) *On Tissue Change.*—The influence of hydropathic procedures on circulation, respiration, composition of the blood, and muscular action has been stated. If these effects are far-reaching in health, how much more marked must they be in disease. The quantity and quality of the blood in various organs and parts of the body are improved and controlled, and since functional activity is the chief agency in producing tissue change, and this activity is dependent upon the blood supply in the organs, we may, by influencing the latter, readily exercise a powerful effect upon the former. That thermic and mechanical irritation applied by means of water upon the cutaneous surface arouses cell activity and effects tissue change is a fact that is based upon substantial experimental data.

Accepting these conclusions as correct, as they are attested to by practical demonstration, we are then in possession of an important agent with which to treat successfully many forms of mental and nervous diseases met with, not only by the specialist, but by the general practitioner.

Our plan of treatment, to be more specific, has been as follows:—

Neurasthenia.—In all bath treatment it is a fundamental principle that reaction must follow the application of cold water.

Equally as important is it that no procedure should be prescribed which will in any way frighten a patient, or cause that patient to lose confidence in a method which is new to the large majority of them, therefore, in the treatment of neurasthenia, I make it a practice to employ the milder measures at first, and gradually work up to the highest degree of hydrotherapeutic treatment. For example: the patient is only sent to the bath three times a week for the first week, and if their reactive capacity is fair, and they have grown accustomed to the procedures as ordered, they are sent daily.

A general prescription reads as follows:—

Hot air box to point of perspiration.

Circular douche 100°—90°—2 minutes—15 lbs.

Fan and jet douche to entire body, 90° to 80°—10 lbs—1 minute.

Lower minimum temperature 2 degrees and increase pressure 2 lbs each treatment until a temperature of 60° and a pressure of 30 lbs is reached.

The above prescription is suitable for a female; male patients can be treated more actively, beginning with lower temperatures and higher pressures.

After the patient has become accustomed to the jet douche, the Scotch douche (alternating hot and cold) may be used with good results.

Usually a walk in the open air, to the point of fatigue, is ordered to follow the bath.

Melancholia.—The same treatment as outlined above. If it is impossible to place the patient in a hot box, owing to some mental phase, I would suggest as a substitute the circular douche at 102° or 104° for two minutes before reducing to 90°, as it is important that the body be well warmed before any cold is applied.

In the melancholic, the Scotch douche, used freely all over the body, markedly stimulates the circulation and imparts a sense of well-being, substituting the depression; and also considerably lessens the lethargy, inclining the patient to greater activity. As the treatment progresses, day by day, the periods of euphoria lengthen, and the depression decreases until finally normal mental health is restored.

Following the bath a vigorous towelling is indicated, more particularly in cases where reaction is not marked. This is usually required in the early stages of treatment in the majority of cases.

In case of any difficulty with the patient refusing the douches,

the nurse steps into the bath and manipulates the patient, at the same time reassuring him.

DEMENTIA PRAECOX.

(a) *Hebephrenic Type*.—Some good has been obtained in these cases by the use of stimulating baths of various kinds. The patient should go to the bath daily, and the treatment should be the same as in neurasthenia and melancholia, and gradually be increased in strength. Circular, rain, jet and Scotch douches are indicated with lowering of minimum temperature, and increase of pressure each day until the highest point of efficiency is reached.

(b) *Catatonic Type*.—As above. Results not so encouraging.

MANIC DEPRESSIVE INSANITIES.

(a) *Manic Type*.—Control excitement by continuous bath, 100°—one-half to six hours, according to condition.

Hot or cold packs (cold preferred) continued until excitement subsides. If patient falls asleep, leave him in the pack until he awakens, in the meantime keep him well covered with additional blankets. On removing patient from the pack, a half bath, 80° or 85°, should be quickly given with active friction, to restore tone of dilated blood vessels, and then return patient to bed.

Pack repeated two or three times a day if necessary.

(b) *Depressive*, the same as melancholia.

Exhaustion Psychoses, or Exhaustion Following Acute Disease.—Half bath, or drip sheet, or affusions night and morning—temperature 80° to 85°, duration 3 to 5 minutes, followed by a vigorous towelling, and patient returned to bed, and in serious cases the temperature may be reduced to 70° or even 60°.

Baruch says, "Let not the fear of cold water deter anyone from resorting to cold affusions in these desperate cases. They are the hydiatic substitute for digitalis and alcohol." I can fully endorse this statement, as I have recently treated a serious case of exhaustion and collapse in this way, and I can assure you that the result has been most gratifying.

Alcoholism—Prescription (daily):—

Hot-air box, 140°—185°—10 minutes.

Circular rain douches—100°—60°—3 minutes—25 lbs.

Scotch douche—100°—60°—5 minutes—25 lbs.

Rain douche—60°—30 seconds.

Hot-air box may be omitted after first two weeks.

Morphinism—Cocainism.—For the unpleasant symptoms of pain and restlessness during and following the reduction of the drug, I know of nothing better than full tub bath, temperature 102°, gradually increased to 110°, duration 15 minutes, at least; may use this twice daily.

In our year's experience with general hydrotherapy our most excellent results have been obtained in neurasthenics, melancholics, exhaustion psychoses, manic depressive insanity, and alcoholics. In the other psychoses only fair results have been obtained.

Incidentally it has been found that the use of the perineal douche, temperature 85°, pressure 25 lbs., 2 minutes, patient sitting or standing over it, has been useful in chronic constipation. This is only of recent date, but, so far, results are good. The jet douche—same pressure and temperature—applied to the abdomen is also useful in torpor of the bowel. Sitz bath in sexual neurasthenia—warm gradually reduced to cold—five to ten minutes.

Much of the success of hydrotherapy at the Homewood is due to my first assistant, Dr. E. C. Barnes, who has been untiring in his efforts to place the treatment on a practical basis. In this he has been materially aided by the intelligent co-operation of the nursing staff. By means of lectures and practical demonstrations the nurses have been instructed in the physiology and anatomy of the skin, and the various organs and functions of the body that are affected by hydropathic procedures, the effects of the various kinds of baths and the indications for their use, but above all, they have been taught to be exact in all procedures, and have now learned to fully appreciate the necessity of this by the gratifying results that have been obtained.

A SMALL meningocele may resemble a sebaceous cyst. The previous history is important in the diagnosis. A meningocele of this character is present "as long as the patient can remember" and remains about the same size; a cyst begins as a small nodule later on in life and increases in size.

PERSISTENT furunculosis and allied suppurating skin lesions appear to yield in a large percentage of cases to Wright's vaccine treatment. Stack vaccines are usually suitable to such cases. The internal administration of yeast, calcium sulphide, etc., affords only occasional help.—*American Journal of Surgery.*

OUR EXPERIENCE IN BRONCHO-PNEUMONIA.*

BY C. S. McVICAR, M.B.,

Hospital for Sick Children, Toronto.

In the past seven years 75 cases of Broncho-Pneumonia have been admitted to the medical wards of the Hospital for Sick Children.

Number of cases of Primary Broncho-Pneumonia	64
Number of cases of Secondary Broncho-Pneumonia	11
	—
Total	75

Deaths from Primary Broncho-Pneumonia	25—39%
Deaths from Secondary Broncho-Pneumonia	8—73%
Number of cases under 2 years	32—43%
Number of cases under 2 years	20—66%
Number of males in whole series	45—60%
Number of females in whole series	30—40%
Number of deaths in males	19—44%
Number of deaths in females	14—46%
Month of greatest incidence, February	24%

Comparison of seasons as to incidence:	
Winter	38%
Spring	25%
Autumn	24%
Summer	13%

Character of Temperature:
 Remittent in 56 or 75%
 Continued in 19 or 25%

In 42 cases with recovery:
 Decline was by Lysis 29, or 69%
 Decline was by Crisis 13, or 31%
 Cough was present in 75 cases, or 100%
 Cyanosis was noted in 61, or 80%

It is perhaps impossible from Hospital records to get a correct idea of the relative severity of cases, but if we take the averages of the maximum temperatures, pulse rates, and respiration rates, in each series, we have, at least, an approximate conception of the disturbance caused.

* Read at meeting of Canadian Medical Association, Ottawa, June, 1908.

The following table may be used for purposes of comparison :

	Average Max. Temp.	Average Max. Pulse.	Average Max. Respiration.
In 39 primary cases with recovery.	104 ²	153	58
In 25 primary cases with death . . .	104 ² .	161	68
In 8 secondary cases with death . .	103 ¹	153	63
In 3 secondary cases with recovery	103 ³	152	53

From this table it seems reasonable to infer that increased respiration rate is the most serious feature in determining the prognosis—although the pulse rate is also higher in the fatal cases—while the temperature is not significant.

In the whole series of 75, the temperature rose above 106 degrees in four cases—three with death, and one with recovery.

A few facts in connection with treatment may be of interest. Eight cases with recovery were treated without stimulation or local application of any sort. Eighteen cases with recovery were treated without stimulation. Some idea of the severity of these cases may be gained from the following table :

	Average Max. Temp.	Average Max. Pulse.	Average Max. Respiration.
Eight cases with recovery without stimulation or local application . .	103 ³	142	53
Eighteen cases with recovery without stimulation	103 ¹	143	53

The therapeutic measures used may be conveniently classified as follows :

1. MEANS USED FOR RELIEF OF TOXIC SYMPTOMS.

(a) Antipyretic drugs were used in five cases, of which two died and three recovered. In two cases no effect was noted. In one case the temperature fell with each dose and rose again in a few hours, indicating that while the manifestation of toxæmia was modified, the toxæmia itself persisted. In one case depression of the medullary centres as shown by increased cyanosis is noted.

(b) Hydrotherapy has proven of greatest value. The administration of as much fluid by the mouth as the child will take has always seemed valuable. The hot pack is the best external means of controlling nervous symptoms. It seldom fails to keep the temperature within bounds. Cold packs and cold sponging have proven, in so many instances, distressing to the child, that they are to be avoided as routine measures. When the hot pack

fails to control either temperature or nervous symptoms, tepid sponging should be tried before resorting to cold.

2. LOCAL APPLICATIONS.

The quilted pneumonia jacket was used in six cases with recovery, and in six cases with death. No reason is recorded in any instance for its use, and no benefit is noted as a result of its use in any case. In three cases it was removed because it hampered the movements of respiration. The jacket seems to have no advantage over a light woollen shirt, which opens along the side of the chest to permit ready examination.

Poultices have been used in a few instances. In many cases they are uncomfortable, and in nearly all instances they are a mechanical hindrance to respiration, as shown by an increased rate of respiration following their use.

Counter-irritation by means of the ice-bag or thin mustard paste is of value in the few cases in which pleuritic pain requires attention. Beyond the relief of pain they furnish a mechanical embarrassment to respiration.

3. MEASURES FOR THE RELIEF OF CARDIO-VASCULAR DISTRESS.

Bleeding was used in two cases of extreme cyanosis with dilated right heart. It was repeated in each case and was of value in relieving the immediate distress in each instance. Both cases, however, terminated fatally, because the mechanical cause of the cardiac distress persisted.

Strychnine and whiskey were used separately or together in 57 cases; five cases are recorded in which the use of strychnine was discontinued because of muscular twitchings, with cessation of twitching in each case.

Whiskey, on the other hand, is perhaps of greatest value, because of its action as a cerebral sedative, soothing the restlessness of the little sufferer after the manner of the "night cap" in the insomnia of old age, and so providing the mental quiet necessary to physical rest.

4. MEASURES DIRECTED TO THE RELIEF OF RESPIRATORY DISTRESS.

Some interference with the function of respiration, shown by cyanosis, increased respiratory rate, or shallow respiratory excursion, is, according to our records, much the most important indication for treatment.

Expectorants were used in nine cases with recovery and in thirteen cases with death. Four instances are recorded of their being discontinued because of gastric disturbance. No record is found of any benefit to be ascribed to their use.

Steam inhalations have proven of value only in those cases where laryngitis or tracheitis were a feature. So far, no apparatus for the administration of steam has been used here, which has not the disadvantage of interfering with the circulation of sufficient fresh air.

Belladonna or atropine was used in nine cases, as follows:

In two cases in extremis; no result.

In one case of excessive secretion of mucus; no result.

In two cases as a respiratory stimulant; two cases report improvement, one case is negative.

In three cases as an antispasmodic in cough with a good result in each case.

Oxygen was used in nineteen cases, ten of which were fatal, while nine cases recovered. The results of its use are recorded as follows:

In two cases without effect.

In four cases it was administered in extremis without effect.

In thirteen cases improvement is noted in the lessening of cyanosis and diminution of respiration rate.

In nine cases with recovery the severity of the cases is shown by the average maximum temperature, pulse, and respiration, viz: Average maximum temperature, 104° ; pulse, 163; respiration, 64.

These rates are above the average severity as shown by a comparison with the table above.

It appears therefore that of all the means used for the treatment of broncho-pneumonia in this hospital, none have been more uniformly useful than inhalation of oxygen. I believe that in broncho-pneumonia the greatest need of the little patient is a plentiful supply of oxygen, whether we consider his need from the standpoint of limiting the bacterial growth, mitigating the effect of the toxins, stimulating the individual immunity, guarding against cardiac disability, or preventing respiratory failure. Most other therapeutic measures may be safely neglected in order to provide a plentiful supply of fresh air, and when fresh air is inadequate inhalation of oxygen will save more lives than drugs or local applications.

Toronto, June 8, 1908.

INFLUENZA AND ITS TREATMENT.

BY G. C. H. MEIER, M.D., NEW YORK CITY, N.Y.

Since the first severe epidemic of la grippe in the United States in 1889, which resulted in a large number of deaths, mostly due to pneumonia, there have been frequent repetitions, but it seems that the virulence of the disease has decreased or that a degree of tolerance has developed. The last occurrence during November and December, 1907, was especially mild: only in exceptional cases were acute nervous symptoms noted, and severe bronchitis, pneumonia and pleurisy were of comparatively rare occurrence.

As I have observed it, la grippe usually begins with slight chilly sensations, pain in the limbs or entire body and marked pain between the eyes. In most cases there is also present some coryza, with much sneezing and teasing, dry cough. The appetite is lost, the bowels are constipated, and there is a marked feeling of malaise and debility. The fever is usually characterized by slight fluctuation and rarely reaches a higher point than 103 F. when no complications are present.

A diagnostic feature is the marked prostration of the vital powers, even when the attack is of mild character. It generally takes the patient two to three weeks to recuperate, and often its exhausting effect persists for months. The complications and sequelae of la grippe, of which pneumonia is the most common and most serious, are numerous, and include inflammations of all the serous and mucous membranes of the body, constituting the chief risk in the debilitated, the aged, and those suffering from previous diseases.

In the chronic form a general neurasthenia, with mental depression, a peculiar irritability of temper, and sometimes hallucinations, is present.

In the treatment of this malady we know of no specific that will positively cut short the disease, but must rely on the indicated remedies, according to the existing symptoms. A solution of carbolic acid, 1 to 5 per cent., a teaspoonful every two hours, according to age, has been found to greatly modify the symptoms. Dr. Dessau treated 3,000 cases in this manner with satisfactory results. Oil of cassia (Ceylon) has been employed for 16 years by Dr. Ross in doses of 10 to 12 drops every two hours until the temperature becomes normal, and then three times a day for 3 days in 1-2 glass-

ful of water; he claims exceedingly good results therefrom. I particularly insist, in all cases at the beginning of treatment, on a good calomel purge, usually 10 grains at a dose, placed dry on the tongue and washed down with a swallow of water. This need only rarely be followed by a saline cathartic, as usually it produces from 3 to 4 fluid stools within 6 to 8 hours after its administration. Cold applications to the head by means of ice-water cloths, renewed every 2 to 3 minutes for an hour at a time, are often very beneficial in lowering the temperature one or two degrees and in mitigating the headache. These applications are more certain to do this than an ice-bag, which in private practice is rarely retained on the patient's head long enough for the cold to penetrate to the deeper parts, and being usually placed on the top of the head the hair prevents in a great measure the cold from reaching the cerebral blood vessels. A thorough disinfection of the nasal and post-nasal spaces by douches or sprays will tend to arrest further infection from the bacilli lodged in these cavities. As the patient has little inclination for food, he should not be urged to take other nourishment than milk and seltzer or koumiss in small quantities for the thirst. Medication will be more effective, as in all acute diseases, when the digestive system is not overtaxed by broths, soups and other nourishment. After the bowels have been thoroughly emptied 10 to 15 grains of novaspirin every 3 hours will speedily modify the pain in the limbs and the headache, at the same time reducing the fever without producing depression. Although I have found that aspirin, when not given in excessive doses, was well tolerated by many patients, there were some who complained of gastric disturbances after its use. Since resorting to novaspirin I have encountered no instances of such an idiosyncrasy. The drug, however, has a somewhat milder analgesic power than aspirin, and in neuralgic cases it is necessary to use it in larger doses, and these in my experience were always well tolerated by the stomach. Its beneficial effect in influenza is seen by a rapid lowering of the temperature and an alleviation or disappearance of the pains between the eyes and in the limbs, which as a rule are such a disturbing symptom of la grippe. The disagreeable sweating which occasionally follows the taking of large doses of aspirin in some persons is not observed under the use of novaspirin. Its action on the heart also seems to be nil. Thus, it seems to me, that we have in novaspirin a remedy which combines with the good qualities of aspirin a lack of some of the disadvantages of the latter.

I report here a few cases of influenza occurring in my practice illustrating my present mode of treatment.

Case 1. G. M., aged 18, a school girl, was taken with slight chilly sensations and some headache and malaise on November 19th, 1907. Temperature 102; pulse 120; slight nausea. The patient was put to bed; 10 grains of calomel were administered, cold cloths were ordered to be applied to the forehead and changed every few minutes for an hour at a time. No food to be taken. November 20. Had vomited once during the night, quite restless, little sleep; now complains of pain in the limbs and back. Temperature 101 1-2; pulse 118. Bowels had moved three times toward morning. Ordered novaspirin, grains 15, every two hours, until more comfortable, then every three hours. Cold cloths to the head continued. November 21. Temperature 100; pulse 105. Slept several hours during the night; pain in the limbs greatly diminished and headache gone. The dose of novaspirin was reduced to 10 grains three times a day for another week, when patient was put on triple arsenates for a week. Recovery uneventful.

Case 2. D. P., aged 32, stock broker, was seized on November 15th with an attack of sneezing, coryza, and a severe pain between the eyes. Had chilly sensations and a dry, teasing cough. Complains of general malaise and pains in the limbs and back. Temperature 103; pulse 120. He was ordered to bed and given a nasal douche (Seiler's tablets) to be used every 3 hours. A dose of calomel, grains 10, was administered dry on the tongue. The cough was treated with codein, grain 1-4, every 2 hours. November 16. Cough somewhat better, nose more comfortable, but patient complains greatly of pain in his limbs and of severe headache. Bowels had moved twice. I now ordered novaspirin, grains 20, every 2 hours. No food, except milk and seltzer for thirst. November 17. Temperature 100; pulse 100. Pains greatly relieved; cough looser and less troublesome. Continued novaspirin, grains 10, every three hours. November 19. Temperature 99; pulse 100. Had some sleep during the night. Feels quite comfortable, but very weak. I prescribed syr. hypoph. co., a teaspoonful in a goblet of cold water, 3 times daily, before meals, and novaspirin twice a day; also ordered a laxative. November 21. Appetite returning, had a good night. Discontinued novaspirin.

Case 3. H. F., aged 45, housewife, was seized with vomiting during the night, chilly sensations and pain all over the body, also some headache. Temperature 102; pulse 110. Prescribed the usual dose of calomel and also novaspirin, grains 10, every 2 hours. No food. Mustard leaf to pit of stomach and cold to the head. December 17. Bowels moved once only. Ordered a dose of Rochelle salts. Pain in body much better, though some aching is still pres-

ent; the headache has ceased. Temperature 101; pulse 100. Novaspirin continued every 2 hours. December 19. Temperature 99; pulse 80. No more pain; feels weak. Ordered triple arsenates, t.i.d. for a few weeks.

Case 4. B. T., aged 38, clerk, complains of severe headaches with pain in the limbs, also pain in the neck and back; chilly sensations. Ordered calomel, grains 10; tr. gelsemii, minim 5, every hour. Ice cloths to the head. Temperature 104; pulse 120. December 21. Temperature 103; pulse 120. Bowels moved 3 times. Vomited once. Pain and headache not abated. Ordered novaspirin, grains 20, every 2 hours. Mustard to the pit of the stomach. Cracked ice for thirst. No food. December 22. Temperature 101; pulse 118. Slept some during the night; no more vomiting; headache considerably relieved. Ordered novaspirin, grains 12, every 3 hours. Milk and seltzer for the thirst. December 24. Temperature 99; pulse 100. Patient is free from pain, feels well, but weak. Ordered triple arsenates, t.i.d., for a few weeks.

Case 5. S. H., aged 14, schoolboy, had an attack of vomiting on December 22nd, with chilly sensations and pain in the limbs. Temperature 102; pulse 110. Mustard leaf to stomach. Calomel, grains 8, dry on the tongue. Cold cloths to the head. Novaspirin, grains 12, every 2 hours. No food. December 23rd. Had a restless night, but feels much improved this morning. Bowels moved twice. Continued novaspirin in doses of 10 grains every three hours. December 25. Temperature normal; feels well. Gave a tonic.

Case 6. D. T., aged 47, grocer, had a tracheal cough for two days, with coryza and malaise, and complains now of severe pain between the eyes and aching all over. Chilly sensations. Temperature 103; pulse 120. Had already taken a dose of castor oil and a diaphoretic. Ordered novaspirin, grains 20, every 3 hours. No food. A nasal douche of Seiler's solution every three hours was given; for the cough heroin. December 28. Temperature 100; pulse 100. Pain much relieved; cough better. Slept some during the night. Ordered novaspirin, grains 10, every 3 hours; milk and seltzer for thirst. December 31. Feels well, but weak; no appetite; some cough remains. Ordered Moeller's cod liver oil, 2 drams after meals and syr. hypoph. comp., 1 dram before meals in cold water. Patient made a prompt recovery in a few weeks.

If a scalp wound extends through the periosteum it is safest to sew the periosteal wound at once and leave the scalp unsutured for twenty-four hours. Fracture should be excluded, if possible, before closing the periosteum.—*American Journal of Surgery.*

REPORT OF THREE CASES OF GASTRIC ULCERS WITH PERFORATION.*

BY W. E. OLMSTED, M.D., NIAGARA FALLS, ONT.

I have the honor to bring to your notice simply an abbreviated report of some cases of gastric ulcer occurring in my practice. I do not intend to bore you by going into either the history or the etiology of the disease, neither shall I touch on the treatment, but I believe it is a fairly common disease—perhaps more common than is generally supposed, and one requiring a good deal of skill and patience to treat successfully.

Case 1. M. McB. Female. Aged 17.

Mother had died, I think, of tuberculosis. Father died of carcinoma of the stomach. Four sisters and two brothers well and healthy.

Patient had complained of pain in the epigastric region shortly after eating, which was often relieved by vomiting, the gastric contents being almost unchanged.

The case was not looked upon as serious at all, and the patient was allowed to go around and not specially limited as to her diet, coming to the office for treatment. One day, shortly after having taken dinner, she drove to the office, over some six miles of rough roads, and when I saw her she was suffering acutely from pain in the region of the stomach. She was placed in bed and died early next morning of acute peritonitis. No autopsy was allowed. In the light of later experience, I believe this to be undoubtedly a case of perforation of the stomach.

Case 2. E. D. Female. Aged 19. Unmarried.

Both parents were living, and the family history generally was good. The patient was apparently in good physical condition.

Her previous health had been good, with the exception of some slight pain in stomach after eating, but never so severe as to cause her to consult a physician. There had been no haematemesis.

One evening, after working hard at her household duties, she partook very heartily of supper, and was immediately seized with very severe abdominal pain and vomited apparently the entire contents of her stomach, which, on inspection, proved to be a heavy, dark, semi-solid, pultaceous mass, with no signs of blood present.

* Read at meeting of Ontario Medical Association, Hamilton, May, 1908.

The patient was found lying on her back, with thighs flexed upon the rigid and tender abdomen, and suffering most acutely. The pulse was rapid, and the temperature subnormal. The abdomen was, as I said, rigid and exquisitely tender on examination. Very hot applications were made and large doses of morphia given subcutaneously. Perforation of the stomach was diagnosed, a most unfavorable prognosis given, and an immediate operation advised, which was refused, and the patient proceeded to get well under hypodermic medication and rectal feeding. I consider that her salvation was due to the semi-solid consistency of the contents of the stomach preventing its escape into the peritoneal cavity.

Case 3. Mrs. W. S. Married. Living at Falls View, Ont. Aged 21. Height, 5 feet. Weight, 114 lbs. Born in Scotland.

Family History.—Father died at 61 of pneumonia, after nine days' illness; health previously good. Mother living at 71, well and hearty, and had always been so.

Four brothers well and healthy. One brother died of tuberculosis, aged 22 years; had been ill six years.

Of six sisters, one died of tuberculosis at age of 12 years, another at age of 22 died on fifth day of puerperium. The mother's one brother died of tuberculosis, and most of her mother's sisters had children die of tuberculosis.

Previous History.—Had always suffered from pain in stomach from childhood as early as she can remember. When 12 or 13 years of age an abscess formed on the right side of the neck, which opened spontaneously, discharging a thick pus, and healed in three or four months. Menses began after the abscess healed in about 13th year, and continued up to a recent date. The patient says she was always awfully constipated, and can distinctly remember on two separate occasions going without a passage or movement of the bowels for a period of *three weeks*, the first occasion 13 years ago, the second 10 years ago.

When about 14 years of age, her physician diagnosed gastric ulcer and treated her for it. She had been troubled with vomiting for years, the vomitus being watery, acid, and mucous. She was under the doctor's care for a few months, being in bed for six weeks, and given milk diet and purgatives, and improved under the treatment, but always suffered pain, especially after eating food difficult of digestion. Sometimes she would get on as well on a general mixed diet as on milk. During an interval of three or four years she enjoyed "just fair health," and at the age of 18 weighed 120 lbs., when she was seized with her second attack, ushered in by haematemesis, slight at first, but increasing to about a half-pint.

She also suffered severe pain and was ill a whole year, most of the time in bed. It was during this second illness that her bowels remained inactive for three weeks, and then the vomiting was especially severe. After recovering from this attack her health remained quite good.

On August 30th, 1906, she aborted at about three months, and from this time on till the middle of October she suffered from symptoms of gastric ulcer, especially tenderness under the zyhoid cartilage, hyperacidity of gastric content, pain after taking food, and constipation. I made a diagnosis of gastric ulcer and was then informed that she had previously suffered from that disease. She had no haematemesis at this time.

Under treatment consisting of rest in bed, liquid diet in small quantities, principally of milk, and free bowel movements by means of a solution of Carlsbad salts, chiefly, and the administration of a mixture of bismuth carbonate, magnesium carbonate, and sodium bicarbonate, she gradually improved, so that she could go about and do light housework.

I saw her again on October 30th, 1906, when she had the usual more or less gastric pain.

On December 10th, 1906, at 3.30 p.m., about six and one-half hours after eating some light bread and milk, she was suddenly taken with intense pain in stomach and left shoulder (note situation) and felt very weak. She felt great oppression and removed her corsets. Her lower abdomen seemed to fill up, and the pain in the left shoulder was intense.

When I reached her a few minutes after this happened she was sitting on a couch leaning forward, her thighs flexed on her abdomen, and complaining principally of her shoulder. It was with great difficulty she could lie down so that I could examine her abdomen, which I found very rigid.

Perforation of the stomach was diagnosed, operation advised and assented to, and preparations began. There was then no local hospital, and it would have been doubtful policy to move her.

Dr. Ingersoll Olmsted was summoned, but, owing to poor train service, was unable to begin the operation before 10 p.m., about six and one-half hours after the perforation occurred. The light was bad, and the so-called sterile water was worse than bad, leaving a heavy deposit of mud in the vessels upon standing, even after several strainings.

The Operation.

An incision 4 1-2 inches long was made in the median line below the zyhoid cartilage, the peritoneal cavity reached, stomach drawn

up through the wound, and a perforation 4 mm. in diameter located on the anterior surface, near the greater curvature, in or near the so-called antrum. Gauze sponges were packed around the original incision, and the stomach manipulated so that the perforation and the surrounding band of cicatricial tissue brought to the edge of the folded viscus, isolated by two large rubber-covered Doyen's clamps, the ulcer and adjacent stomach walls rapidly excised by the scissors, the cut edges rapidly approximated by a fine continuous celluloid linen suture reinforced by two additional rows of Lembert sutures, and the stomach replaced. A drainage incision was made just above the pubes, Douglas' pouch opened, and several thick strands of iodoform gauze drawn from above down into the vagina. Upon opening the lower abdomen a considerable quantity of food material and milk escaped from the opening.

The superior incision was closed with interrupted-silkworm gut sutures, the patient transferred to bed in the Fowler position, and enteroclysis given by the Murphy method.

The abdomen was not washed out, one reason being the very bad condition of the water.

The patient made an uninterrupted recovery; the superior wound healed by first intention, the drainage wound closed in good time, and I dismissed the case on January 25th.

The specimen removed presents the usual deeply punched out appearance, with deposition of a dense fibrous tissue, not unlike a bird's nest, and explains the utter futility of medical treatment in such cases. The patient has enjoyed excellent health since the operation, never having any symptoms referable to the stomach, and is, in fact, better than she has ever been.

FREQUENT applications of tincture of iodine on a "tooth-pick" swab will often heal a corneal ulcer where other means fail.

A SMALL, hard, irregularly nodular scalp tumor is very likely an endothelioma. A little section should be removed under local anesthesia for microscopical examination. If the diagnosis is corroborated, radical removal is necessary.

AFTER an operation for extensive carbuncle of the neck, a comforting support may be supplied by placing under the bandage a piece of heavy manila cardboard (book-binders' board), wetted and shaped to the back of the head and neck.—*American Journal of Surgery.*

INTERMITTENT CONTINUOUS FILTRATION SYSTEM.*

BY T. AIRD MURRAY, C.E.

The object of this paper is to deal as concisely as possible with the leading features appertaining to a complete sewage purification plant for a small town of about 2,000 inhabitants. The method described is that known as the "Intermittent Continuous Filtration System," accompanied by preparatory liquefying tanks.

In general and in detail it is up-to-date, in accordance with the practice in Great Britain, and is of such a nature that it would receive the sanction of the British Local Government Board, which must always be obtained before money can be loaned for such purposes by any local sanitary authority in the Old Country.

A water supply is assumed at 60 gallons per head per day of twenty-four hours. This gives a dry weather flow of sewage of 120,000 gallons per day to be dealt with. The system as described will be capable, however, of taking five times the dry weather flow. Any surplus over this amount may be treated as storm water on land or flow direct into effluent channel.

Such a system as I shall now describe more in detail is planned with every consideration of economy to meet the requirements of localities not over-wealthy, and yet produce an effluent of a harmless nature.

The main characteristics of the system are as follows:

- (a) A Screening Chamber.
- (b) A Storm Overflow.
- (c) Duplicate Liquefying Tanks.
- (d) A Dosing Chamber.
- (e) Three Continuous Sprinkler Filters.
- (f) Effluent Drain.

SCREENING CHAMBER.

The sewage first enters a screening chamber 10 feet x 6 feet x 8 feet deep. Here a wrought iron screen of 3-8 inch mesh is provided to keep back heavy solids. There is no fixed size for this tank, but it is desirable that it be comparatively small, the main object being that the force of the incoming sewage may produce a boiling or swirling action, tending to break up solids by

* Read at meeting of Ontario Medical Association, Hamilton, May, 1908.

disintegration as far as possible; while the screen will keep back such obstacles as cans, scrubbing brushes, etc., the usual accompaniment of domestic sewage.

STORM OVERFLOW.

This apparatus is arranged between the above chamber and the liquefying tanks. The communicating pipe to the liquefying tanks is of such a diameter and gradient that when running full it will only take five times the dry weather flow, viz., 600,000 gallons per twenty-four hours, or 425 gallons per minute. During heavy storms the surplus passes over a longitudinal weir, level with the top of the above outlet drain, and passes away down the storm overflow pipe of a diameter equal to the difference between the above outlet drain and the main sewer entering the works.

This presents a simple method of dividing what may fairly be termed storm water of such a diluted character that special treatment is unnecessary. However, in cases where this overflow might pollute a drinking water source, it would be wise to provide some form of filter either on land or by means of a coarse filter tank.

LIQUEFYING TANKS.

Presenting the third stage, are sometimes called septic tanks, this being a trade name, which has been applied to a covered-in cesspool. These tanks are arranged in duplicate, to allow of repairs and cleaning when necessary; otherwise they are in use in conjunction.

The joint capacity is made equal to twenty-four hours dry weather flow, the sizes in each case being 27 feet x 15 feet x 8 feet deep (10 feet at inlet end and 6 feet at outlet). The tanks may be either covered or otherwise. In frosty climates it is as well to provide a covering. It should however, be observed that a cover in no way assists the tanks in the duty they have to perform.

The work of the liquefying tanks, as their name proclaims, is to reduce organic solid compounds into their liquid forms by putrefaction. Heavy matter is precipitated by gravity to the tank floor, while light matter, such as grease, floats and forms a surface scum. The tank effluent being in a liquid state, is in a highly suitable form for treatment in nitrifying filters, without the liability of filtering media becoming choked.

In the construction of the tanks the principal object is to pre-

vent as far as possible any undue disturbance and present a condition of stagnant quietude.

The sewage enters over a weir in the form of a thin film, the weir being the full breadth of the tank. The sewage, after it passes over the weir, is at once met by a projecting scum board, which dips about 2 feet into the tank. This prevents any surface disturbance of the tanks, while the thin film of sewage finds its way into the body of the tank 2 feet below the surface, presenting practically no disturbing influence to the precipitated matter on the floor. The outlet is arranged on precisely similar lines; the liquid sewage passing over a longitudinal weir with a protecting scum board.

Now, it should here be most emphatically stated that there is very little sewage purification takes place in the above tanks. A prevalent opinion exists that such tanks are sufficient for sewage purification. They, however, accomplish no such desirable an object. A useful liquefying action is certainly accomplished, with the aid of the bacteria, which assist in breaking up solid organic compounds. The effluent sewage, however, on analysis practically contains the same amount of chlorides, free and albumenoid ammonia, without any trace of either nitrates or nitrites, while the oxygen absorbed is practically the same. The effluent, in fact, is putrescent, and should on no account be turned into any natural water course, if the object be to avoid nuisance.

It is necessary to lay stress upon this point. Many towns are persuaded that, if they adopt liquefying tanks, they have solved the sewage problem, whereas they have only reduced a mass of unseemly sewage into a temporary appearance of seemliness, without reducing its dangerous condition as far as the health of the community is concerned.

CONTINUOUS FILTERS AND DOSING TANK.

We now arrive at the principal stage in the sewage purification treatment. "Continuous filters" are so called to distinguish them from "contact filters." In the latter case the sewage was retained in contact with the filtering media in saturation for a given length of time in order to allow the nitrifying organisms a prolonged opportunity of acting upon the organic compounds. By the continuous method no such period of contact is allowed, apart from the sewage liquid percolating in dribblets slowly through the media.

The main object is to obtain slow and even percolation and prevent flushing the filters with a weight of sewage. This is done by providing a dosing chamber, by means of which the sewage is

presented to the filters in the form of intermittent doses. On the size and arrangement of this dosing chamber the successful working of the filters entirely depends.

With the older form of contact filters, it was generally determined that strong sewage, representing 30 gallons per capita per day of water supply, required one cubic yard of filtering media for each 168 gallons of sewage per 24 hours. With the continuous filter, however, accompanied with a dosing tank, one cubic yard of filtering media is capable of dealing with 500 gallons of sewage, and first-class results are produced.

As the main expense of sewage works appertains to the filters, their construction and media, it will be readily seen that an enormous saving is effected by the adoption of this more recent method of treatment.

It should be here pointed out that figure data does not always absolutely apply in every particular case. Sewage may vary less or more in its strength and constituents. The information supplied by the analyst is of the utmost importance in determining data, both as to construction and sizes of the various parts of a plant. The presence and character of trades effluents, if any, are also subjects for serious consideration. Let deputations hesitate, and all amateurs ponder, and not conclude because they have seen a sewage system working with satisfaction at the city of A. it will also without modifications be satisfactory for the city of B.

The figures here are, therefore, average in nature, and apply to a comparatively weak domestic sewage representing a water supply of 60 gallons per capita per day, as before stated.

The dosing tank should have a capacity equal to two gallons of sewage per super yard of filtering media, or, in other words, equal to 1-2 inch rainfall at each dose. The discharge is brought about by a simple form of automatic measuring valve. The tank should be made shallow, so as to expose the sewage to as much air as possible and allow area for settlement of any further organic matter in suspension.

Penstocks are fixed at each outlet to the filters, so that any one filter may be out of use on occasion.

There are three separate filters provided, each 50 feet diameter, with 8 feet depth of filtering media. The media should be of any hard, indissoluble character, such as furnace clinker, river bed gravel, etc. The top layer, about 3 feet of 4 inch to 5 inch cubes; the centre layer about 4 feet 1 inch to 2 inch cubes, and a base layer for draining purposes of about 1 foot of 3 inch cubes surrounding radiating tile or floor drains.

It is quite satisfactory to build the outer wall circle of the beds

with large blocks of the filtering media. This should take the form of dry rubble walling, as open as possible to allow free access of air, and air pipes should be provided horizontally throughout the filter body at depths of 18 inches.

To obtain an even discharge over the whole surface of the beds the usual and most efficient method is by means of automatic revolving sprinklers.

The sewage from the dosing chamber passes, by means of iron piping, to the centre of each filter, and then up through an upright standard turbine construction, from whence it delivers into radiating perforated arms, which, revolving, act as spreaders, sprinkling the sewage over the whole surface of the bed. The power for this action is obtained from a hydraulic head by fixing the dosing tanks from 1 foot 6 inches to 2 feet above the level of the spreaders.

This practically completes what would be taken as an up-to-date sewage purification plant, and only an effluent drain has to be provided to discharge the water either to a water course or for purposes of irrigation. In Canada such filters would be the better of some wood covering to keep off severe frost. A system on the above lines was recently adopted at Berlin (Europe), and last year was unaffected during a winter showing 7 degrees below zero Fahr., apart from a covering to the outlet channel to the filters, when the sewage temperature showed a reduction to freezing point.

The cost of a plant of the above size and character for a population of 2,000 would run to about \$10,000, viz., \$5 per head of population; this apart from outfall sewer and cost of land.

THE TREATMENT OF DIFFUSE SUPPURATIVE PERITONITIS WITHOUT DRAINAGE.*

DR. MACKINNON (Guelph).—^r Before saying anything in the way of discussing the paper of Dr. Moore on this subject, I wish to express to him my real sympathy as to the result in the four cases he refers to. No surgeon who has operated for septic peritonitis can fail to realize the grave nature of the situation. If the disease be well advanced—acute, general peritonitis of many hours' duration—that death will result is the rule, and recovery the exception. This result does not necessarily imply any fault in the operator or in his methods. It will occur, no matter what method of operation—and without any deference to the skill or experience of the operator. I do firmly believe that the only hope for success in these cases is that the operation shall follow the infection as speedily as possible—not even a delay of hours, not to speak of days—and that

* Discussion on Dr. C. F. Moore's paper at Ontario Medical Association at Hamilton, May, 1908. (Paper published in August issue.)

the operator do his work as quickly as is consistent with proper surgery.

That cases have recovered from general septic peritonitis, even though the operation did not follow until five to seven days, is no doubt true, but these must be rare, and the infection must have been far from virulent in character. It is the duty of the surgeon not to refuse the chance which an operation may give the patient in whatever stage it may be, unless moribund; but the friends should be given to understand that every hour since the infection began before operation diminishes the hope of recovery proportionately.

In a child of nine or ten, I operated for general septic peritonitis of seven days' duration, from a gangrenous appendix. The whole peritoneal cavity was full of pus. A free median incision was made and lavage, followed by drainage, one drain in each side, and one down in the cul-de-sac. An easy recovery.

I did the same operation for a man over fifty, who died in fifteen days from septic dysentery.

In a third case, where the small bowel was ruptured from an injury, and where the operation did not follow until 23 hours after the accident, the man made a difficult recovery after closing the rupture, free irrigation and drainage.

I shall not take the time of the association in relating other cases in which this treatment was carried out. I have faith in it, and, although others have obtained results possibly as good or even better, by closing up the peritoneal cavity after thorough irrigation, yet I have not seen any good reason to change my methods. I feel this way in the matter. If I had a case of acute general septic peritonitis—in which I found it necessary to irrigate the whole abdominal cavity—if I failed to drain afterward and the patient died, I would blame myself. In such a case I would surely drain. If the disease was caused by perforation of the appendix or of some diseased condition in the lower abdomen, I would put a good large drain down into the pelvis. If from rupture of the gall-bladder or perforation of a gastric or duodenal ulcer, I would also put one through the loin. If the result was fatal I would feel that I did all I could to save life.

With drainage I strongly approve of what may be called the Murphy treatment, *i.e.*, putting the patient in the half-sitting position and using continuous slow saline by rectum. With this method in several desperate cases I had excellent results.

I had a very singular case a year ago. A man of sixty was ailing for some months with pain in right side and increasing debility. After a time I found an obscurely fluctuating tumor where the

liver should be. In my efforts to arrive at a correct diagnosis I used a medium-sized exploring needle and withdrew dark, thin fluid. Within two hours severe pain set in, involving the whole abdomen. In twelve hours the man was in great agony—evidently collapsed, pulse thready and rapid—the dullness less in liver region, but marked in lower abdomen, and the whole wall of the abdomen rigid. His condition put a general anaesthetic out of the question. I used a weak solution of cocaine and made a small median incision through a fat wall, and introduced a rubber drain. I kept him in the Fowler posture and gave continuous saline by rectum, about two quarts daily for two or three days. At least a half-gallon of dark fluid with thick brownish particles in it drained away at once on putting in the tube.

The patient's condition began to improve immediately, and by the third day was as well as before. He ultimately died from malignant disease of the right adrenal.

In closing I wish to congratulate the reader of the paper on the thoughtful character of it, but I regret I cannot agree, in the light I yet have, that it would be wise to discontinue drainage after irrigation in cases of acute general septic peritonitis.

DR. G. A. BINGHAM.—Irrigate (1) when the peritoneum contains the contents of the holo viscera: (2) in fulminating cases where the peritoneum has not reacted, and there is no leucocytosis. Drain from the pelvis and flanks. Put the patient in Fowler's position and use the continuous saline.

DR. N. A. POWELL.—Drainage of an area infected from appendix disease may be by capillarity or tubularity, and is much promoted by syphonage. I secure this by leaving each strip used to build the cofferdam long, and leaving the split rubber tube with gauze also long, and bringing the outer ends over the hips. It is then imbedded in a large mass of gauze moistened with saline solution, and such drainage is efficient always and life-saving often.

DR. W. E. OLMSTED.—The wick cigarette so-called drain actually drained very rapidly by capillary action, so that a short drain would become moist at the free end a very few minutes after inserting it.

DR. WM. F. METCALF (Detroit).—I wish first to compliment the essayist upon his paper. In its preparation he has shown much care and original thought. His conclusions are logical. I find myself compelled, however, to take issue with him upon certain points and to agree rather with Dr. MacKinnon. Dr. Moore very properly notes the lack of uniformity in statistics. This may be due to a difference in what is considered as general peritonitis. Some operators would thus classify all those cases in which the

intestine is floating free in pus or is bathed in pus as far as can be seen from the incision, and in which no wall is building. If we accept this conception of the condition, then my statistics in the past year show 22 cases, with two deaths. Cultures were made from the pus in twelve of these cases, with the result that in six the colon bacillus was found alone, in two it was associated with the staphylococcus albus, in two it appeared with the staphylococcus aureus, and in two only a streptococcus was found. In the two fatal cases proper treatment had not been instituted until apparently the whole peritoneum had become involved; pus was everywhere in the cavity; the patients were suffering from extreme toxæmia, and agglutination of the intestines prevented drainage. If our definition is made to include only those cases in which the whole peritoneum is actively involved in the suppurative process, the mortality will then, in my opinion, be close to 100 per cent. Satisfactory drainage cannot under these circumstances be effected.

I think that irrigating fluids should not be used in the peritoneal cavity. The patient is suffering from the absorption of the products of bacterial growth. This absorption will be more rapid if the protective influences are broken down. Water, even in the form of the ordinary saline solution, is not normal to the peritoneal cavity, and its use in large quantity must lessen the vitality of the endothelium, and any effort at gross cleansing must be attended by a degree of traumatism, as well as the distribution of infection to parts that nature might otherwise be able to protect. There is no such thing as sterilizing the cavity, mechanically or chemically, and anything that puts the natural processes at a higher disadvantage than they are already laboring under is to be avoided.

All cases of peritonitis are virtually cases of perforation. Infection, gross or microscopic, has passed beyond the limits of the organ in which it has developed. This is usually some portion of the gastro-intestinal or genito-urinary tract. Recognizing this essential feature, it follows that incision should be made at the earliest possible moment over the seat of the lesion, if that can be determined; if the source of the infection remains uncertain, then incision should be made through the right rectus, near the median line.

If the case has been one of appendicitis, and the incision reveals the intestinal coils bathed in pus, even in the absence of any "walling off," I assume the whole peritoneum is not necessarily involved in the active inflammation, and lay a coffer-dam of moist gauze about the area of the original infection. This not only prevents the extrusion of the gut, but drains away the toxins held in solution in the fluids discharged. At the same time the formed

elements of the blood are enmeshed in the gauze and the formation of a protecting "wall" is favored.

In this connection it is important to bear in mind the fact that if this gauze dam were removed before the fibrin and formed elements are liquefied, traumatism would be produced, as shown by a rise in temperature. If, on the other hand, the gauze be left in position for about eight days, it can be removed as easily as though it were soaped.

If a gross perforation is found, this, of course, is closed when possible. The gauze dam above described is then placed. A drain of split rubber tubing, enclosing a wick of gauze, is inserted to the most dependent portion of the cavity. The end of this tube is in some cases brought through a "stab" wound, thus allowing the complete closure of the original working incision. In some cases another tube is passed to the pelvis or the perirenal space.

The patient is put in the Fowler position and normal saline is given by the rectum. If toxic symptoms are marked the saline solution is given continuously per rectum by the "seeping" method; that is, the fountain syringe is kept about eight inches above the level of the anus, so that absorption progresses as rapidly as the solution enters the bowel, and accumulated gases are at the same time allowed free exit. This fluid, entering the portal circulation, is more immediately available than when introduced subcutaneously and its administration can be continued almost indefinitely. The fluids introduced by either method make easier the excreting functions of the skin and kidneys, while, with open drainage, secretion from the peritoneum is stimulated and absorption is correspondingly checked. The profession is indebted to Dr. J. B. Murphy for introducing this method.

The treatment of peritonitis is essentially prophylactic. This implies early diagnosis and early operation as is particularly illustrated in the case of acute appendicitis. In some cases the opportunity to save life will slip away if we wait for definite indications, in temperature, pulse, or local conditions. Such indications often become definite only when the case is hopeless.

So much has been written by eminent surgeons decrying the reliability of laboratory findings as an aid to diagnosis that, with your permission, I will report briefly one case. We shall better judge the value of such methods if we recall that our most important laboratory findings are those of the clinical thermometer. If we take other laboratory findings in the same open-minded spirit as we do, or should, those of the thermometer, we shall find that we can as ill afford to do without the one as the other. The value of either, in the average case, is to be found only in relation to the other signs and the general clinical picture.

This patient, a man of 37, had been treated for many years for liver trouble. He was taken one morning early with excruciating pain in the region of the gall-bladder. His temperature in the afternoon was 100 degrees. I saw him first at 8 p.m. of the same day. He said that his pain had suddenly ceased about one-half hour before. His temperature and pulse had returned to normal. Tension of the right rectus muscle was marked. Aided by the history, the most significant incident of which was an attack of "inflammation of the bowels" of three months' duration in childhood, I told him that his trouble was an attack of appendicitis, and that the reason for the sudden relief of pain was either gangrene or perforation or both, or that the appendix had discharged its contents into the caecum, and that the necessity for operation could be positively determined by repeated blood examinations. During the night counts were made at intervals of two hours, and these showed both a gradual increase in the total number of leucocytes per cu. mm. and, fully as important, an increasing percentage of the polynuclear variety. Had the pain been relieved by an emptying into the colon, the count in both these aspects should have shown a decreasing rather than an increasing scale.

In the early morning his pulse and temperature were normal. I told the patient that if we waited for elevation of temperature, and the infective agent were the colon bacillus or a staphylococcus, a local abscess would probably form, and late operation save his life; if the streptococcus pyogenes or the bacillus pyocyaneus, he would die. He accepted immediate operation, and the findings were: (a) A long retro-displaced appendix, the tip of which lay behind the gall-bladder; (b) gangrene throughout its entire length and involving the adjacent area upon the caecum; (c) no "wall" nor any likelihood of one; (d) a pure culture of bacillus pyocyaneus in the pus in and about the appendix; and (e) extensive adhesions resulting from old inflammation.

The fact is here to be emphasized that the laboratory was the medium of obtaining data upon which I was able to make a clear and emphatic statement of his prospect and thus to save the life of the patient by not admitting the wisdom of further delay.

Finally, let it not be forgotten that the source of infection must be determined and removed before the active inflammation involves a large area. If this can be done, then even a widespread distribution of pus arising from a process still localized need not prevent us from saving nearly all our cases; but, if we insist upon *seeing* rather than *foreseeing* the classic signs and symptoms of the generalized process, then nearly every patient will die.

Proceedings of Societies.

MANITOBA MEDICAL ASSOCIATION ORGANIZE.

Diagnosed by a careful physician, the cases of the medical men from out of town, recently, would be described as a good time brought on by heavy doses of general good fellowship, super-induced by the large hospitality of the doctors of Winnipeg. To those who are not sufficiently versed in medical lore to catch the drift of this, it is explained that the Manitoba Medical Association, which is now actively put into operation, held its first banquet recently at the Royal Alexandra. The local doctors were the hosts and the doctors from out of town the guests, and the dinner made a fitting climax to a day of important progress in the medical history of the province.

The feature of the dinner was Dr. H. H. Chown's stirring address on the necessity for greater effort on the part of the medical profession of Manitoba to combat the encroachments of tuberculosis. Prof. Gordon Bell, of the Manitoba Medical College, went into the history of the movement for a sanatorium in this province and explained as best he could the reason why the progress in securing this institution had been so restricted. Dr. J. R. McRae criticized the procrastination of the committee sharply and sarcastically.

Nearly 200 members of the newly-formed society were present at the dinner, which was served in excellent fashion, in the Royal Alexandra's big banquet hall. Dr. J. R. Jones, President of the Association, acted as toast-master, and in his speech he extended welcome to the visiting doctors and congratulation to the members of the Association as a whole. He mentioned, in a complimentary manner, the work done by the former secretary, Dr. Kenny, and impressed upon the members the duty they owed the new organization.

Dr. John Howden sang, "When the King Goes By," and Dr. R. J. Wilfrid Good, in a witty address, proposed the health of the guests. Dr. John A. Macdonald, of Brandon, replied cleverly, and C. C. McGlashan strengthened his reputation as a singer of Scottish songs, by rendering "The Laird o' Cockpen." Dr. Macdonald then rose and asked permission to propose the health of the hosts. Dr. Patterson spoke to the toast very gracefully.

Referring to a remark made by Dr. Good, who had described himself and Dr. Patterson and Dr. Jones as "prehistoric physicians," Dr. Patterson said he recalled when he and Dr. Good graduated. Dr. Patterson said that he began with a few blue pills and a lancet, while Dr. Good, who aspired to be a surgeon, considered himself fully equipped with a bucksaw, a butcher knife, a tourniquet, and an upholsterer's needle. In those days blue pills had to cure many ills; in those days operations were painful, bloody, and mostly fatal. To-day there were medicines for every illness and instruments for every disease. To-day operations are painless, bloodless and mostly successful. Thus, Dr. Patterson said, could the steady and rapid advancement of medical science be traced.

Dr. Swan sang "Mandalay," and Prof. Gordon Bell then took up the subject of the dreamed-of sanatorium. Dr. Bell reviewed the history of the movement from the first, and told how about \$30,000 had been promised from the various parts of the province in support of the object. According to Dr. Bell, everything went well until the death of Dr. McInnis, when the trouble began. Prior to Dr. McInnis' death a site had been selected at Ninette and everything was going well. After his death, however, many of the committee which supported him in his choice of the Ninette site declared that they had done so only because of his personal ability to make the scheme go anywhere. A new vote was taken, and it was decided to look for a site nearer Winnipeg. This was the fatal move, Professor Bell said, as letters began coming in from all parts of the province recalling former subscriptions in the event of a change in the site. Finally, however, the Brokenhead River was suggested, but at the first meeting objections were taken to this and no full meeting had been secured since. It was hoped to have all the members together soon and take some definite steps.

In conclusion, Prof. Bell declared that the members of the new Association could do much by individual effort. They should realize their duty in regard to the fighting of the White Plague. They should take more pains to explain to those who do not know, that consumption is a curable disease, an unnecessary disease, and that it is much better to cure the sufferer than look after his family when he is gone. No man with a curable disease should be allowed to die for want of an insignificant amount of money.

In responding to the speech of Prof. Bell, Dr. McRae criti-

cised the dilatory work of the sanatorium committee. He had had, he said, a dim memory in the long ago of the mention of some plan to secure a sanatorium for Manitoba. He had forgotten all about it, however, until he heard Dr. Bell mention it, so long was it since he had heard it spoken of.

Dr. McRae went on to explain that scientists claimed that in Alberta the altitude and meteorological conditions combined to produce a great abundance of electricity, which, acting upon the people living in that province, caused them to have an extraordinary supply of nervous energy. Dr. McRae recommended to Prof. Bell the idea of taking the committee out to Alberta for a season to see if it would effect some change for the better in their capacity for doing things besides talking. Talk would never build a sanatorium, Dr. McRae concluded, and the general opinion was that it was high time something definite was done.

Dr. H. H. Chown, who has but recently returned from the International Tuberculosis Convention at Washington, D.C., said that he had come home with greater enthusiasm than he had ever had before. He spoke of the opinions of a German expert, who, although there had been a 20 per cent. reduction of the disease in Germany, did not advocate sanatoriums, but held out strongly for free dispensaries among the poor and illiterate classes. In these dispensaries the poor are taught how to cook and prepare their food, how to treat the sputum, and how to hygienically regulate home conditions so as to best overcome the tubercular tendencies. In the United States last year there had been 200,000 deaths from tuberculosis—more than quadruple the fatalities resulting from all other infectious diseases. If Canada was to progress she must copy the older countries, and Dr. Chown emphasized the necessity for every doctor in the province to work hard in favor of free dispensaries as a means of combating the evil. Manitoba, he declared, is to-day one of the most backward portions of the civilized world in the fight against consumption. She had done practically nothing, and the doctors had been remiss in their duty.

Dr. R. D. Fletcher sang two songs in excellent style, and the dinner ended with "Auld Lang Syne."

AFTERNOON MEETING.

The meeting of the afternoon in the breakfast room of the Royal Alexandra was largely attended, about one hundred doctors being present. The business considered at the session was the adoption of the constitution and the election of officers. The

constitution set forth the objects of the Association and prescribed the methods of procedure, etc. The election of officers was rapidly concluded, all the positions being filled by acclamation, with the exception of that of secretary, for which there were two nominations, Dr. Kenny and Dr. Halpenny. The list of officers chosen was as follows:

Dr. J. R. Jones, President; Dr. Macdonald (Brandon), Vice-President; Dr. McRae (Neepawa), Second Vice-President; Hon. Secretary, Dr. Halpenny; Hon. Treasurer, Dr. Kenny; Executive Committee—Dr. Hicks (Griswold), Dr. D. G. Ross (Selkirk), Dr. Keele (Portage), Dr. Speechly (Pilot Mound), Dr. Harrington (Dauphin); Auditors, Dr. Blanchard and Dr. Moody.

During the day the constitution was signed by the first members of the Association, and the following physicians of the province were enrolled: W. Harvey Smith, William Rogers, H. P. H. Galloway, J. O. Todd, G. Ross (Selkirk), Mary E. Crawford, J. H. O'Neill, J. A. Devine, William Chestnut, J. R. C. de Lorimer, A. D. Carscallen, D. H. McCalman, L. P. Gendreau, Gordon Bell, G. A. Brown, D. S. Mackay, C. R. Gilmour, R. F. Rorke, H. Janke, James McKenty, A. B. Alexander, J. H. R. Bond, Fred. A. Young, E. Richardson, E. L. Pope, Raymond Brown, J. A. McArthur, J. R. Jones, Robert Mackenzie, John R. Thomson, J. A. Hamilton, James Pullar, James Patterson, J. J. McFadden, C. C. Field, A. V. Brown, R. Goodwin, W. Turnbull, Geo. Clingan (Viriden), W. J. McTavish, H. E. Hicks (Griswold), J. R. McRae (Neepawa), R. N. Burns, E. S. Popham, J. Halpenny, C. E. Johnson, J. A. McGuire (Stonewall), John A. Macdonald (Brandon), Chas. Hunter, S. Peterson, H. H. Chown, A. W. Allum, N. K. McIver, Geo. P. Bawden, S. W. Prowse, S. J. S. Pierce, M. R. Blake, A. E. Walkey (High Bluff), A. W. Moody, G. E. Swallow, T. Beath, Henry F. Gordon, Spurgeon Campbell, R. J. Blanchard, V. G. Williams, R. S. McMunn, C. T. Sharpe, R. W. Kenny, A. M. Campbell, Charles A. Ritchie, J. A. Gunn, H. P. Byers (Melita), R. B. Mitchell, E. J. Boardman, H. M. Murdoff, S. J. Burrige, H. W. Wadge, C. A. Mackenzie, R. M. Cumberland (Glenboro), W. Webster, P. H. Miller (Holland), H. A. Gordon (Portage), F. S. Keele (Portage), R. R. Swan, G. S. Mothersill, D. H. McCalman, James Duxbury, H. J. Hassard (Sidney), J. S. Howden, J. W. Good, G. Henderson, W. H. Secord, T. R. Ponton (Macgregor), H. C. Norquay, C. H. Vrooman, L. J. Elkin, N. Hutcheson, V. E. Latimer (Brandon), J. E. Coulter, N. J. McLean, L. A. Knight, J. T. Whyte, T. C. A. Walton, John Tees, W. A.

Gardner, J. R. Davidson, Walter L. Watt, Thomas Turnbull, R. G. Montgomery, H. J. Watson, Fred. J. Hart, W. R. Nichols, F. D. McKenty, R. F. Rorke, A. G. Meindl, E. W. Montgomery, E. A. Jones, Adam Clarke, C. E. Sugden, C. W. Clarke, and R. D. Fletcher.

In the morning a clinic was held at the medical college, sixty physicians being present. The surgeons operating were as follows: Dr. Bond, Dr. Harvey Smith, Dr. Galloway, Dr. Halpenny, Dr. Nicholls, Dr. Carscallen, Dr. Richardson. Dr. D. S. McKay, Dr. Elkin.

The Manitoba Medical Association was formed the previous morning, although formal organization was deferred till afternoon. Most of the physicians of standing throughout the province registered, or gave notice of their intentions to do so.

The morning session was devoted to a clinical discussion of interesting subjects. Dr. Harvey Smith spoke on "Nasal Deformity and Tonsillar Mycosis," Dr. Galloway on "Orthopedic Cases," Dr. Halpenny on "Septic Peritonitis with Pyonephrosis in Pregnancy," and Dr. Nicholls on "General Peritonitis." Dr. Nicholls also spoke on "Ventral Hernia Treated by Wire Palisade and Ectopic Gestation."

Dr. Richardson led the discussion on "Hydrocephalus with Spina Bifida," and Dr. Bell presented specimens. Dr. D. S. McKay spoke on "Hydatid Mole," Dr. Elkin on "Molluscum Contagiosum," and Dr. Bond on "Radiographs."

The pathological laboratory was open for inspection and the specimens were used in demonstrating.

The Canadian Medical Protective Association

ORGANIZED AT WINNIPEG, 1901

Under the Auspices of the Canadian Medical Association

THE objects of this Association are to unite the profession of the Dominion for mutual help and protection against unjust, improper or harassing cases of malpractice brought against a member who is not guilty of wrong-doing, and who frequently suffers owing to want of assistance at the right time; and rather than submit to exposure in the courts, and thus gain unenviable notoriety, he is forced to endure black-mailing.

The Association affords a ready channel where even those who feel that they are perfectly safe (which no one is) can for a small fee enroll themselves and so assist a professional brother in distress.

Experience has abundantly shown how useful the Association has been since its organization.

The Association has not lost a single case that it has agreed to defend.

The annual fee is only \$3.00 at present, payable in January of each year.

The Association expects and hopes for the united support of the profession.

We have a bright and useful future if the profession will unite and join our ranks.

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Dominion Medical Monthly

And Ontario Medical Journal

EDITORS:

GRAHAM CHAMBERS, B.A., M.B.

WALTER McKEOWN, B.A., M.D.

ASSOCIATE EDITOR:

T. B. RICHARDSON, M.D.

MANAGING EDITOR:

GEORGE ELLIOTT, M.D.

Published on the 15th of each month. Address all Communications and make all Cheques, Post Office Orders and Postal Notes payable to the Publisher, GEORGE ELLIOTT, 203 Beverley St., Toronto, Canada

VOL. XXXI.

TORONTO, NOVEMBER, 1908.

No. 5.

COMMENT FROM MONTH TO MONTH.

Canadian Medical Association—Report of the Special Committee on the Establishment of a Department of Public Health for the Dominion of Canada.—To the President and Members of the Canadian Medical Association.—As convener of your Committee on the establishment of a “Federal Department of Public Health,” I have the honor to submit the following report:

From the beginning of the present session of Parliament, your Committee has endeavored to carry out the instructions of the Association. A memorandum containing, in résumé, the chief arguments in favor of centralizing, in *one* department and under the direction of *one* competent Deputy-Minister, all the sanitary services actually scattered in the various departments, was drafted and submitted to each member of the Committee, and subsequently an interview with the Honorable Prime Minister and his colleagues was secured, by Dr. J. B. Black, M.P., for the 3rd of March, 1908.

As a delegation from your Committee, Doctors Black, Jones, McIntyre, Powell, Thompson, Barr, Schaffner, Elliott, Chisholm, Cash and Lachapelle (convener), met the Right Honorable Sir Wilfrid Laurier and Honorable Mr. Sidney Fisher, to whom they were introduced by Dr. Black. The convener of the Committee presented to the Honorable Premier the memorandum which is

appended to this report (memo. published in our issue of April), adding what explanations and remarks he deemed useful. Doctors R. W. Powell, George Elliott, Carleton Jones, J. B. Black, F. L. Schaffner and Wilbert McIntyre also joined in the discussion, insisting on all the chief arguments in favor of the establishment of a Federal Department of Public Health.

On the invitation of the Honorable Prime Minister, the Honorable Mr. Fisher addressed the delegation and told the Committee of the great interest the Government was taking in this most important question of centralizing, into one department, all of the various sanitary services, as recommended by such a competent body as the Canadian Medical Association. He mentioned that there were difficulties in starting the desired reform, but, however, ended his remarks by stating that, whatever the difficulties were, he was of opinion that the advantages the reform would bring would well compensate them.

The Honorable Premier thanked us for our presentation of the case, and assured us that our request would receive all due attention.

According to the instructions contained in the resolution adopted by the Association at its Halifax meeting in 1905, your Committee had printed all resolutions of the Association and reports of its committees relating to the question of a Federal Department of Public Health, and had copies distributed to the members of the Cabinet, the Senators and the members of the Commons, also to the medical periodicals and the medical societies in all the provinces of Canada. A copy of the pamphlet is annexed to this report. (Previously published.)

Before ending, I might mention that Dr. J. B. Black, a member of the Committee, has called the attention of the Parliament to this question and brought out a debate in the course of which he and other members of the Commons laid stress on the arguments for the establishment of a Public Health Department. The debate was adjourned, and when it will be resumed, we hope the Government will be in a position to express its views on this important question.

Allow me to thank you, in the name of my colleagues, for the confidence shown us in asking us to continue the work necessary to bring to a solution a question in which the Association takes so much interest, and which our predecessors in office have so earnestly and invariably so well handled.

On behalf of the Committee,

(Signed) E. P. LACHAPELLE, *Convener.*

The Democratic Platform, we are told by *The Medical Council*, and *American Medicine*, contains the following strong plank: "We advocate the organization of all existing national health agencies into a national bureau of public health, with such power over sanitary conditions connected with factories, mines, tenements, child labor and other subjects, as are properly within the jurisdiction of the Federal Government, and do not interfere with the power of the State's controlling public health agencies." When one of the great political parties of that great commonwealth to the south of us, considers a public health bureau of sufficient importance to help construct its platform, it shows progressiveness of a distinct character. Surely in another Dominion general election this factor will figure in the practical politics of either political party. The medical profession and Parliament need a man to espouse this cause and to carry on an educative and convincing campaign in its behalf.

It will come sooner or later, as Sir Wilfrid said to the Canadian Medical Association at Ottawa: "It is only by knocking at the door that the door will be eventually opened."

Congratulations to the Ontario Government, or probably properly to the Honorable, the Provincial Secretary. The doctor-politician has got the bump at last—a member of the staff of the Hamilton Provincial Hospital has been installed in succession to the late Dr. Hickey, of the Cobourg provincial institution. Although the public press says "temporarily," surely if it is not made permanent it will be owing to the fact that some one else is slated for promotion. The medical profession, but the patients particularly, may exclaim: Thank God! the day is going or gone, when the best qualification for practising psychiatrics in this province was political activity and pull.

A Western Newspaper finds fault with one of Toronto's most able and respected specialists because he did not jump and run with his stomach tube and antidotes to a case of poisoning when vehemently urged to do so. Apparently, the epicurean editor does not believe in specialists. He would have a nose and throat specialist do Whitehead's operation on a moment's notice; an eye and ear man a prostatectomy; a gynecologist, tracheotomy; every one with an M.D. treat everything from the pip to the pox, great or small. He is over twenty-three years behind the times in medical knowledge—but, skiddo. If D. McG's house were on

fire at 2 a.m., would he get up and put it out with his tears? Yet this is on a par with his senseless criticism. Such criticism, however, would almost go to show that specialists should have it stated on their signs what particular practices they are confining their work to.

Koch still insists that bovine tuberculosis differs from human tuberculosis, as first expounded by him in London, in 1901. With his adherents he stands in the minority. Although a heart-to-heart discussion was held *in camera* at the recent Washington Tuberculosis Conference, it failed to produce any unanimous agreement on the subject. The majority—and many eminent scientists are included in this—hold that tuberculosis in cattle constitutes a most serious menace to public health. It is a matter of the most vital importance, and Professor Koch and other scientists will have to go deeper into their researches and observations, in order to satisfy both the medical and lay mind.

The Local Use of Epsom Salt is a new and interesting, as it appears to be a successful, topical treatment in up-to-date therapeutics. It is being extensively used in hospitals in the United States in acute and sub-acute inflammations of the skin, and in erysipelas. The technique is extracted from *The Medical Council*. The application consists of a saturated solution of mag. sulph. in water. This is applied in facial cases on a mask consisting of from fifteen to twenty thicknesses of ordinary gauze, of sufficient size to extend well beyond the area involved, a small opening being made to permit breathing; no opening, however, is cut for the eyes. The mask is then thoroughly saturated with the solution, applied and covered with oiled silk or wax paper, and wet as often as necessary to assure a moist dressing—usually once in two hours, depending on the time of year, or the temperature of the room. The dressing should not be removed oftener than once in twelve hours to permit an inspection of the parts, and then immediately re-applied; the infected area should not be washed while the treatment is employed. The temperature rapidly falls and usually becomes normal during the second twenty-four hours. The only other treatment needful, in the average case, is a milk diet until the temperature is again normal.

It is said that the chief of one of Philadelphia's largest outpatient departments has given instructions to his workers to employ magnesium sulphate in all cases of ivy poisoning, erysipelas and, in fact, in inflammations generally of the skin,

Mr. Kipling and the Doctors is the title of an article in October 10th issue of *The Spectator*. It is a comment on an address delivered by the eminent *litterateur* to the students of Middlesex Hospital in praise of the doctors. Coming from such a source it is refreshing. It is said his words have been read by the public with delight and his auditors were thrilled with burning pride in their profession. The doctors and their patients divide the world into two classes; the non-combatants, the patients, eagerly watch the efforts, in their behalf, of those who were always in action, "always under fire against death." Mr. Kipling said that this fight for life was *one of the most important things in the world*. (The italics are ours.) Did but the public realize this, and governments in particular, with regard to tuberculosis and other diseases the doctors were fighting! They reported for duty at once in all times of flood, fire, famine, plague, pestilence, battle, murder and sudden death; they could pass through the most riotous crowds unmolested when they were known, or stop a ship in mid-ocean to perform an operation; houses were burnt up or pulled down on their order; they dared tell the world facts. Mr. Kipling says they are paid to tell the truth; Dr. Oliver Wendell Holmes once told a graduating class they might sometimes venture on lies as justifiable in the interests of their patients. Truly we doctors have a wide latitude. The writer in *The Spectator* goes on and elaborates Mr. Kipling's address. We are told we belong to the "privileged" and the "ruling" classes as well; that judges' sentences upon criminals, the whole machinery of state, great projects of reform, cabinet council deliberations very often hinge upon the judgments of the doctors. Men and women, rich and poor alike, obey his mandates. But we are later told that with all our powers the prizes to us are few. One thing, however, long known to the medical profession, startles the public—the highest death-rate of any profession in the world! And, indeed, each and every one has time and again heard the salutation: "You shouldn't get sick!" "You shouldn't catch cold!" The doctors run more risks of untimely death, defend people's homes from invisible foes, bring hope and sleep in the worst hours of pain, see life exactly as it is, daily risk their lives for others, run great chances with their families, keep patients' secrets, and do it all unconsciously of their own individual selves; yes, and as a body, often have to carry the sins of the black sheep in the flock. The profession, as a whole, will not fail to return its appreciative thanks to Mr. Kipling as well as to *The Spectator*.

News Items

BRITISH COLUMBIA continues an active campaign against tuberculosis. Two pamphlets have recently been issued to the teachers and school children of that Province.

THE Montreal League for the Prevention of Tuberculosis will receive a donation of \$50,000 from Lt.-Col. Burland of that city, on condition that the League will raise an endowment of \$50,000 to provide for the support of the institution.

MR. FRANK A. RUF, President and Treasurer of the Antikamnia Chemical Co., St. Louis, has recently been decorated by the Shah of Persia with the Imperial Order of the Lion and the Sun. Mr. Ruf is a collector of Persian textile art treasures.

THE "American Woman," is the title of an article in *The Spectator* by Dr. Andrew MacPhail, editor of the University Magazine and the Montreal Medical Journal, which has attracted considerable attention in England and the United States.

A CLEAN milk supply for Toronto is being agitated for on the part of the Academy of Medicine and those members of the Milk Commission of the Canadian Medical Association. At the meeting of the section on Public Health of the Academy, on the evening of the 20th of October, Dr. J. A. Amyot gave an address which included certified milk, inspected milk and tuberculosis and milk.

Publishers' Department

ANEMIA AND ITS RELATION TO CATARRHAL INFLAMMATION.— No disease is more common than chronic inflammation of the mucous membranes. Doubtless many causes contribute to the prevalence of this malady which spares neither the young nor the old, the rich nor the poor, the high nor the low. Prominent in its etiology, however, are sudden climatic changes, the breathing of bad or dust-laden air, bad hygiene in personal habits, and bad sanitary surroundings. These factors all singly or collectively tend to lower the vitality of the whole human organism, and as a consequence the cells throughout the body perform their various functions imperfectly, or not at all. The quality of the

blood becomes very much lowered, with the result that tissues that have important work to perform, do not receive sufficient nourishment and so falter from actual incapacity. The red blood cells are reduced in numbers and the hemoglobin is likewise diminished. Because of the blood poverty the digestive process is arrested, nutritive material is neither digested nor absorbed, and a general state of inanition ensues. It is not surprising under these circumstances, therefore, that chronic inflammation of the mucous membranes is produced. These highly organized structures with very important duties to perform, naturally suffer from insufficient nutritional support, and the phenomena of catarrh follow as a logical result. Perversion and degeneration of the cells in turn takes place, and more or less permanent changes are produced in the identity and function of the tissues. Appropriate treatment should consist primarily in correcting or eliminating all contributing factors of a bad hygienic or insanitary character. The individual should be placed under the most favorable conditions possible and every effort made to readjust the personal regime. Local conditions of the nose, throat, the vagina, or any other part, should be made as nearly normal as possible by suitable local applications or necessary operative procedures. Then attention should be directed immediately to improving the quality of the blood, and thus increase the general vitality. For this purpose vigorous tonics and hematics are desirable, and Pepto-Mangan (Gude) will be found especially useful. Through the agency of this eligible preparation, the blood is rapidly improved, the organs and tissues become properly nourished and accordingly resume their different functions. Digestion and assimilation are stimulated and restored to normal activity, and the various cells and organs start up just as would a factory after a period of idleness. In fact, Pepto-Mangan (Gude) supplies the necessary elements that are needed to establish the harmonious working of the whole organism. When this result is achieved, the catarrhal condition is decreased to a minimum and distressing symptoms are banished, a consummation that is highly gratifying to every afflicted patient, and every earnest practitioner.

THE IMPORTANCE OF LECITHIN to the organism is demonstrated by its thorough distribution throughout the animal and vegetable kingdoms, and its value as a therapeutic agent is being appreciated more fully day by day, as experimental work progresses

and opens up new fields for its usefulness. Lecithin has been given with satisfactory effects in anemia, rachitis, tuberculosis, diabetes, and in nervous breakdown, and recent reports show that much is to be expected of it in syphilis and locomotor ataxia. In the latter ailment, pains were alleviated and other signs disappeared, and one author comes to the conclusion that the loss of lecithin due to syphilitic toxin might bring on general paralysis and phthisis. Lecithin in its best form is furnished under the name Lecithol (Armour), a palatable emulsion, containing one grain of pure lecithin to the drachm. Lecithol is superior to the hypophosphites, glycerophosphates and other inorganic combinations, which are not converted into lecithin in the system and which are excreted as phosphates.

WHERE THERE IS A BURNING sensation when urinating, sanmetto in teaspoonful doses three or four times a day usually gives relief. If the urine is alkaline, ammonium benzoate in connection with sanmetto will prove helpful, and citrate of potash when the urine is acid.

THE VARIETIES OF DYSMENORRHOEA.—In an article on Dysmenorrhoea, Solomon Henry Secoy, M.D., of Jeffersonville, Ind., refers especially to its causes and treatment, and offers some valuable suggestions as follows: "I am in the habit of regarding dysmenorrhoea as capable of division into three varieties. They are the neuralgic, the obstructive, and the membranous. The neuralgic form is a pure neuralgia, and its subjects, in all cases, will give a history upon which we can base its cause. These patients will tell us that never, prior to the attacks which they have recently undergone, have they had dysmenorrhoea. It is caused generally by malaria and other influences which tend to lower the general health. The treatment of dysmenorrhoea very naturally comprises such remedies and procedures as will correct the cause, and the administration of anodynes to relieve the pain. In the neuralgic form we must correct the cause. If that be malaria, quinine must be given. In most cases where the neuralgic form is presented, there is anemia, and no relief will be secured till this factor is overcome. Iron in some available form must, therefore, be given. During the period of menstruation the administration of antikamnia and codeine tablets