

## **PART IX.**

# **DISEASES OF THE MUSCLES.**

### **ACUTE MYOSITIS.**

**Synonym.**—Acute Polymyositis.

**Definition.**—An acute or subacute inflammation of the voluntary muscles, and generally recognized as being due to microorganisms or toxins produced by them.

**Etiology.**—This is a disease of adult life, and occurs more frequently in males than females. It is believed to arise from a micro-organism or to the influence of toxins, though no specific germ has as yet been found. It has occurred in the course of broncho-pneumonia, tuberculosis, and diabetes.

**Pathology.**—While all the voluntary muscles may be involved, the ocular and masseter usually escape. The muscular fibers are chiefly involved, though the interstitial may not escape. With the hyperemia, there is marked exudation of the leukocytes, the tissues become swollen, and, as fatty degeneration takes place, they assume a yellowish-white color. Hyaline degeneration sometimes occurs, and hemorrhage may be observed. The muscles are usually quite friable.

**Symptoms.**—The disease comes on gradually, the muscles of the extremities being the first to be involved, followed in turn by those of the trunk. The muscles become swollen, stiff, and painful, interfering with locomotion, and are tender when palpated, and slight edema, is sometimes present. As the disease progresses, general edema may take place, while an erythematous eruption may appear, attended by more or less pigmentation.

There is general systemic disturbance, as shown by headache, nausea, and vomiting, fever of moderate intensity, and enlargement of the spleen. As a result of the impaired action of the muscles, respiration and deglutition may be greatly impaired. Bronchitis, broncho-pneumonia, tuberculosis, and diabetes may develop during the course of the disease.

**Diagnosis.**—The clinical symptoms of trichiniasis are so nearly

identical that a microscopical examination of the diseased muscle will be necessary to distinguish the one from the other.

**Prognosis.**—The disease generally terminates fatally in from one to three months in the acute form, or from one to three years in the chronic form.

**Treatment.**—The treatment will be symptomatic. Where sepsis is prominent, the well-known antiseptics, echinacea, baptisia, the chlorates, sulphites, and mineral acids, will be used.

### **PROGRESSIVE OSSIFYING MYOSITIS.**

**Definition.**—Either a local or general myositis, in which a progressive ossification takes place in the affected muscles.

**Etiology.**—Like acute myositis, the cause is unknown, though young men are more frequently affected than women.

**Pathology.**—The early changes that occur are the same as those of acute myositis, the later changes being those of calcification, which render the muscles and joints stiff and immobile. The process in rare cases extends to the heart.

**Symptoms.**—The additional symptoms to acute myositis are immobility of the muscles and joints.

**Diagnosis.**—This is made by the hard, stiff condition of the muscles, and finally by ankylosis of the joints.

**Treatment.**—The treatment has been unsatisfactory, and can be only palliative.

### **MYOTONIA.**

**Synonym.**—Thompson's Disease.

**Definition.**—A hereditary disease of the muscles characterized by prolonged contraction of the muscles whenever voluntary motion is

attempted, contraction and relaxation being slow and the muscles stiff.

**Etiology.**—Heredity is an important factor in the causation of the disease, Thompson, who first described the disease, having traced the affection in his family for five generations. It occurs more frequently in men than women, and usually in those whose families are characterized by neuropathic tendencies. Prolonged, severe exertion has been followed by the disease where no history of the affection could be traced in the family. It has also been attributed to cold and fright, where the patient has been of a neurotic temperament.

**Pathology.**—The muscle fibers are hypertrophied, especially in their transverse diameter.

**Symptoms.**—The most characteristic symptom of this rare disease is that, upon voluntary movement, the contraction of the group of muscles which the patient desires to move is slower than normal, and when once contracted they remain so for several seconds. The muscles of the hand and leg are the most commonly affected. If of the hand, the patient readily grasps the object desired, but for some seconds is unable to let it go, and, even when relaxed sufficiently to permit the object to be released, the fingers remain, for a few seconds, partially contracted.

If of the leg, and the patient attempts to walk, he is unable to take a second step for several seconds owing to the tonic contraction and stiffness of the muscles; the first few steps are therefore a halting gait; with each step, however, the contraction becomes less marked till the normal gait is assumed and the patient may walk indefinitely in a natural manner, provided he does not rest for a considerable period. It is only after a period of rest that the contraction occurs.

All the voluntary muscles may be involved, though the muscles of the face are usually exempt. The muscles of deglutition and the sphincters are never involved.

The reflexes are not constant, being sometimes exaggerated, diminished, normal, or even absent. There is generally an absence of pain.

The mental disturbance is only such as would be, natural to one of his condition, his anxiety causing more or less irritability.

**Diagnosis.**—This is readily made by carefully observing the tonic contraction of the muscles, which grow less. with each muscular movement, till normal action is restored, to become rigid again after a rest.

**Prognosis.**—This is unfavorable, for though in rare cases there is a temporary arrest of the disease, its return is certain. It does not necessarily shorten life, though accidents are more common to those with this affection.

**Treatment.**—No treatment has as yet proven of much benefit. Massage and electricity have been used with doubtful benefit. Exposure to cold, and mental worry, aggravate the disease, hence should be avoided as far as possible.

### **PROGRESSIVE MUSCULAR ATROPHY.**

Such a close relationship exists between the various clinical varieties of muscular atrophy and the form previously described, where there is a degeneration of the ganglion cells of the anterior horns of the spinal gray matter, and since some authorities contend that, in all forms of progressive muscular atrophy, there is some affection of the nervous system, I have not considered it worth while to devote more space to this subject.

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### **PARAMYOCLONUS MULTIPLEX.**

**Synonym.**—Myoclonia.

**Definition.**—A disease of the muscles, first described by Fried-reich, in which there is clonic contractions, principally of the extremities, and occurring constantly or paroxysmally.

**Etiology.**—The etiology of this rare disease is unknown. It occurs more frequently in males than in the opposite sex. Heredity may bear some part as a predisposing factor, since the disease is found more frequently in those of a nervous temperament.

Traumatism, overwork, exposure to cold, fear, and great mental disturbances have been considered as exciting causes.

**Pathology.**—The pathology is unknown, no characteristic lesion having been as yet discovered. It is supposed to be closely allied to convulsive tic, and possibly there may be some disturbance in the motor cells in the cortex and cord.

**Symptoms.**—The most characteristic symptoms are sudden paroxysmal contractions, of a clonic character, of a group of muscles. The contractions vary from fifty to one hundred and fifty per minute, and are usually bilateral. They are the most pronounced in the muscles of the trunk and hips, though those of the arms, legs, and face, are sometimes affected.

The contractions are so severe in some cases as to throw the patient from the chair or bed, and in rare cases are tonic in character. The tendon reflexes are increased, and any irritation of the skin or an electric shock brings on an attack.

**Diagnosis.**—The sudden,, lightning-like contraction of the muscles is the chief diagnostic sign.

**Prognosis.**—This is favorable in most cases, a spontaneous cure not infrequently resulting.

**Treatment.**—The disease has thus far been unaffected by treatment.

# PART X. THE INTOXICATIONS; SUNSTROKE; OBESITY.

## THE INTOXICATIONS.

### ALCOHOLISM.

**Definition.**—An intoxication, acute or chronic, due to the ingestion of a sufficient quantity of alcohol to produce muscular incoordination, mental disturbances, and finally narcosis. Certain terms are used to define peculiar conditions or phases of alcoholism, such as mania-a-potu, dipsomania, and delirium tremens.

*Mania-a-potu* is a temporary acute insanity, or “crazy drunkenness,” occurring in a drinker of neurotic temperament.

*Dipsomania* is where there is a strong hereditary tendency to drink, and where the victim goes on a spree periodically, but during the intervals is free from any craving for drink.

*Delirium tremens* is where certain hallucinations are experienced, generally of a fearful character, such as being pursued by snakes, demons, vicious animals, etc., and is generally found in chronic alcoholism, though sometimes met with in the acute form.

**Etiology.**—Among predisposing causes may be mentioned the following:

*Heredity*, the offspring of drinkers often being of a nervous temperament, which craves stimulants.

*Occupation*, in which there is exposure to inclement weather, as by soldiers, sailors, cab-drivers, hucksters, etc. Those engaged in the manufacture and sale of liquors are also peculiarly exposed.

*Grief and Despondency.*—The loss of family or fortune results in broodings, which predispose the individual to dissipate his troubles by drink. Pain and failing health are often the first conditions that drive to drink.

*Social Customs.*—The custom of serving wines of various kinds at banquets is often the beginning of the drink-habit.

The exciting cause is either the intermittent or continued use of whisky, wine, or beer, and in females cologne-water.

**Pathology.**—*Acute Alcoholism.*—Where death is the result of acute alcoholism, the mucous membrane of the gastrointestinal canal is engorged, injected, and dark-red in color, and covered with a sticky, mucoid exudate. The brain and the kidneys show the same characteristic changes. A recent case of a young colored boy of eighteen, who drank two quarts of whisky on a wager and died twenty-four hours later, revealed the above conditions, which is typical of acute alcoholism.

*Chronic Alcoholism.*—In chronic alcoholism, changes of a more permanent character take place, depending somewhat upon the quality, and quantity, and kind of alcoholics consumed, and length of time used. While all the bodily tissues are more or less impaired, the brain, kidneys, and digestive system suffer most.

Spirituous liquors show connective-tissue changes, while malt drinks are more apt to result in fatty degeneration. Thus, in whisky-drinkers, chronic gastritis, with thickening of the mucosa, will be found.

The kidneys and liver are firm and sclerosed, due to fibroid degeneration. The brain, spinal cord, and arteries also show similar changes. In beer-drinkers, there is apt to be fatty degeneration of the kidneys, liver, and heart, and more or less dilatation of stomach.

**Symptoms.**—The symptoms of acute alcoholism have a wide range, affecting different temperaments in very different ways. In one, a spirit of generosity is early developed, the victim spending his substance with a lavish and prodigal hand. Another will be jovial, and endeavor to amuse his companions, while a third early develops a pugnacious attitude, is quarrelsome and vicious.

The first effect of *drink* is one of stimulation and exhilaration, attended by vascular relaxation, which is accompanied by a sense of warmth, the face being flushed and rosy. As the system becomes more impressed by the intoxicant, the drinker passes into the second stage; there is now muscular inco-ordination, a more cyanotic appearance of the face, and

the speech is maudlin or delirious. This is followed by the third stage, in which helplessness, acute coma, heavy, stertorous breathing, a slow, full pulse, dilated pupils, a purplish, bloated countenance, relaxed, clammy skin, and frequently incontinence of urine and feces, are the prominent symptoms.

The coma is usually not so profound but that the patient may respond to repeated shakings or pressure upon the supraorbital notch, though his mutterings are unintelligible. Acute alcoholism may stop short of the third stage, especially if but little of the stimulant is taken.

*Mania-a-potu.*—In some neurotic individuals a few drinks are sufficient to develop a *maniacal* condition, characterized by an ungovernable temper, the *demon* of drink carrying everything before it. The face is flushed, the pulse full and bounding, with great excitation of the nervous system, which manifests itself by unearthly screams or destructive tendencies. Thus, in the case of Mr. A—, a farmer of industrious habits and peaceful mind, a few drinks of whisky, on coming to town, transformed him into a veritable fighting demon. His arrest and incarceration could only be accomplished by the aid of half a dozen assistants, which was followed by unearthly yells and cursings, until he was completely exhausted.

Mr. B—, an industrious carpenter, only needed a few drinks to make him "crazy," when he would undertake to beat his wife and children and demolish the furniture, and by the time he could be overpowered, his home looked as though visited by a cyclone.

*Chronic Alcoholism.*—The disease—for so it must be considered—comes on insidiously, gradually undermining the vital forces, and inflicting both moral and physical ruin.

The victim of chronic alcoholism loses his industrious habits, and as slight exertion results in fatigue, loss of energy and un-willingness to work replaces the habit of thrift. General and mental depression follow, headache, malaise, and impaired appetite, with a dirty, furred tongue, a characteristic bad breath, resembling the mash-tub, constipation, alternating with diarrhea, insomnia and muscular tremor, are among the earlier symptoms.

Digestive disturbance is almost constant, the patient vomiting-before



breakfast, and suffering with gastric distress after eating. Thirst is excessive, but only partially relieved by drinking. Tremor of the hands and tongue is soon noticed, and though at first it can be controlled, soon passes beyond the power of the patient, even affecting his gait, which becomes ataxic.

The muscles are flabby, there is a venous congestion of the face, and acute rosacea paints the drinker's nose a purplish red. In beer-drinkers, dilatation of the stomach is quite common. The mental or moral sensibilities are blunted, the will and conscience are paralyzed, and falsehood and deceit replace truth and fair-dealing.

As the physical, mental, and spiritual forces give way, there is less resistance to diseased conditions, which accounts for the high mortality, in pneumonia,, influenza, dysentery, and kindred diseases, occurring in alcoholics.

*Delirium Tremens.*—Although this may follow a single attack of a hard and prolonged spree, it is more apt to occur in chronic drinkers. In some cases delirium tremens is not the result of excessive excitement, but makes its appearance when the person has ceased to drink, either from inability of the stomach to receive it, or because they desire to sober up. Hence it is the withdrawal of the stimulant at a time when the system is accustomed to its use. In other cases it comes on while the person is still drinking to excess. There is therefore a delirium of drunk-eness following the debauch immediately, and another that makes its appearance in from two to seven days afterwards.

“In the first case, the person has ceased to drink, and the excitement of the nervous system is dependent upon the withdrawal of the stimulant. It may commence as early as the second day, or at any time during the week after ceasing the use of stimulants.

“The symptoms are those of prostration. We find that there is great irritation of the stomach, frequently thirst, sometimes nausea, and in all cases an entire loss of appetite, the patient having usually taken but little, if any, food for several days. The pulse is generally slow, and the hands and feet are cold and clammy; he is anxious and dejected, sighs frequently, and complains of oppression about the precordia. These symptoms continue sometimes for two or three days, at others for but a few hours. The restlessness and vigilance of the patient are now

increased, and the countenance has a peculiarly wild expression; mental delusions now occur, at first at intervals, and easily displaced by reasoning- with him, but at last, becoming fixed and constant, he sees curious shapes and beings, snakes, devils, dragons, assassins, etc., and is in continual fear of his life, or of future retribution.

“It is singular that these visions are so generally frightful, and strike the poor sufferer with mortal terror, and yet the cases are very rare where it is otherwise. He sees them on his bed, peeping” and laughing at him from behind the furniture, grasping at him from the air, climbing on his body, and it is impossible to displace these fancies. Occasionally they take human shapes, but are still objects of terror, as murderers, thieves, etc., and he tries various means to escape from their clutches, even in some cases to jumping out of the window.

“The intensity of this delirium varies in different cases, the patient being managed with ease in some, but in others requiring” to be held down in bed to prevent him from injuring himself and others. During this time the skin is harsh and dry, the pulse frequent and small, the tongue dry and furred, and the appetite entirely lost. The secretions are all diminished, the patient is feeble, and there is an unnatural tremor of the muscles. Continuing in this way for a variable period, it may terminate by a subsidence of the excitement, and by a deep sleep, from which the patient awakes free from these morbid fancies. In other cases the delirium becomes more and more severe, until finally the system sinks under it, the patient dying from the fourth to the twelfth day.

“In the second case the delirium comes on as a termination of the spree, the person continuing to drink even after the attack has commenced. In some the drunkenness assumes a violent form, the patient being furious, vicious, and controlled with difficulty. When we examine the case we find the face flushed, the eyes bright, the pupils contracted, the pulse hard, and the patient irritable and with difficulty controlled. The evidence of delirium tremens is the same as above noted, for in all cases the phantoms are frightful. In this, however, the patient does not suffer quietly, but manifests a disposition to resist and combat the evil shapes. At last, when the hallucinations are continuous, the patient is in a constant state of furious excitement, which continues until the nervous system gives way and death results.” (Scudder.)

**Diagnosis.**—Acute alcoholism is not usually difficult to recognize,

though a *careful* examination should be made of each case, since apoplexy, concussion of the brain, and uremic coma have been taken for a case of "dead drunk." In an acute coma from drink, the breathing will be heavy or stertorous, and by vigorously shaking the person, or by pressing hard upon the supraorbital notch, the patient can be aroused, and though his mutterings may not be very intelligible, we recognize that the impressions are made upon the brain.

The whisky-breath also corroborates the other symptoms. We are not to overlook the fact, however, that the patient may have fallen in an attack of apoplexy, or from a blow on the head, and whisky or brandy has been given by the bystanders in an effort at resuscitation, or the patient may have had a drink or two before an attack or an injury, in which case the whisky breath should not deceive us.

The diagnosis of chronic alcoholism will be made from the history of the case; the tremor of the hand and tongue; the furred tongue; bad breath and gastric irritability; the bloated face, red nose, and the disturbed mental or moral condition of the patient.

Delirium tremens will be recognized by the history of the case, the marked uneasiness and restlessness of his manner, and the peculiar wildness of his countenance; the seeing of unpleasant and hideous things can hardly be mistaken for any other condition.

Mania-a-potu will be recognized by the violent fury of the individual while under the influence of drink.

**Prognosis.**—In acute cases the prognosis is generally favorable, unless large quantities of whisky are taken, when death may result in a few hours.

In chronic alcoholism, permanent recovery seldom takes place, owing to progressive changes in brain, kidney, liver, gastro-intestinal canal, and, in fact, the tissues generally. Even though the individual permanently abstains from the use of spirituous and malt liquors, tissue changes can not be removed entirely.

Bright's disease, insanity, epilepsy, cirrhosis of the liver, and other serious lesions are apt to result.

**Treatment.**—The treatment for acute alcoholism is quite simple. If seen before the patient reaches the stage of coma, an emetic, followed by teaspoonful doses of liquor ammonia acetat, every thirty or sixty minutes, will generally straighten or sober up the patient; the patient, of course, abstaining from the fresh use of drink. Howe's viburnum cordial and nux vomica should be given for several days. If the patient has reached the stage of coma, he will sleep off the effects of his drunk, when the above remedies may be effectively used.

There is not only a physical degeneration, but a mental and moral one as well, and chronic alcoholics do better when placed in special retreats or homes for the inebriates. The patients tolerate the withdrawal of stimulants better than when at their own home, and they are encouraged by the presence of convalescents, and their will is strengthened, and by the judicious use of tonics, iron, strychnia, gold, and like preparations, a certain per cent are permanently cured.

The general health must be looked after, and nutrition improved. Exercise in the open air, baths, massage, and a good tonic, such as the triple phosphate of iron, quinine, and strychnia, will prove beneficial. To induce sleep, passiflora in teaspoonful doses, trional, gelsemium, and hybiscyamus should be given in preference to opiates; in fact, the physician should avoid opiates, as he would whisky, for the danger of acquiring the drug habit is very great.

The patient is to be encouraged, his will strengthened, and his moral and spiritual nature cultivated. Unfortunately, there is no specific drug for alcoholism. If the patient can be interested in philanthropic work, such as rescuing other unfortunates, much good will result.

In treating delirium tremens, we find two directly opposite conditions. In one there is enfeeblement; the pulse is small and frequent, the face is pallid, there is great prostration, the extremities are inclined to be cold, and the hallucinations are terrifying. Such a patient needs stimulants, tonics, and restoratives. Alcoholic stimulants, however, should be withheld. Acetate of ammonia, nux vomica, strychnia, hot broths, highly spiced, and the hot bath are followed by happy results. Where the stomach is too irritable to retain foods, an enema of hot beef-tea, will often be received and accomplish much good.

Where there is great excitation, with flushed face, full bounding pulse,

throbbing of the carotids, and great nervous excitement, as shown by the wild active delirium, the treatment will be directly the opposite of the above. Veratrum and gelsemium, one dram of each, in a half glass of water, and a teaspoonful every thirty or sixty minutes, will bring about good results. This may be followed by chloral 2 drams, morphia 2 grains, aqua 2 ounces. Teaspoonful every hour until the patient drops asleep, and the battle is won.

The after treatment in each case will be along rational lines. In one it will be belladonna, nux vomica, hydrastis, quinine, etc. In the other, gelsemium, rhus, passiflora, etc.

## **MORPHINISM.**

**Synonyms.**—Opium Inebriety; Morphine Habit.

**Definition.**—A chronic intoxication due to the habitual use of opium, or some of its alkaloids, especially morphin.

**Etiology.**—The most common cause, in our own country, is the frequent use of morphia as a pain reliever, or to overcome insomnia. Physicians are many times responsible for creating the habit, by the frequent and persistent use of morphia to overcome pain.

Women are more frequently the victims than men. Physicians and druggists make up the greater number of male patients, Mattison reporting seventy per cent to be medical men.

In China, India, Persia, and Turkey, opium-growing countries, the opium habit is as common as alcoholism in Europe and America.

**Pathology.**—There are no characteristic tissue changes in opium inebriates, other than that due to indigestion and malnutrition. In time the patient becomes anemic, the skin dry, sallow, and inelastic, the heart and blood-vessels show the effects of poor nutrition, and the tissues generally present a starved appearance.

**Symptoms.**—Several months may elapse before the symptoms are sufficiently marked as to be noticeable. Susceptibility to the drug rapidly decreases, so either larger doses or the same size doses, must be taken at

more frequent intervals. Gradually the patient takes on a peculiar anemic or gray color; the skin is dry, harsh, and inelastic; the muscles are shrunken; the eye is listless; the patient complains of languor, is listless, or when not under the influence of the drug is restless, irritable, and is troubled with insomnia. Not only physical weakness results, but, what is still more deplorable, there is moral degeneration. The patient forms the habit of lying, and practices deception on all occasions.

The patient complains of frequent pain in the cardiac region, and palpitation, difficult breathing, and cramping of various muscles are common symptoms. Shortly after taking the drug, an intolerable itching frequently occurs. Males are usually sexually impotent, while females are prone to abort.

When the drug is used hypodermically, the arm or leg shows many scars from the needle, and the blue cicatrices of former abscesses.

**Diagnosis.**—The diagnosis, where possible, is made from the history of the case, and where this is impossible to get, owing to the lying habits of the victim, the above symptoms must be carefully noted, and a close watch placed upon the patient.

**Prognosis.**—The prognosis is unfavorable in confirmed cases, when treated by the general practitioner. Where the patient can be isolated and attended constantly by a firm companion, or placed in a retreat for opium inebriates, the prognosis is more hopeful.

**Treatment.**—The diet should be generous, easily digested, and nourishing; the patient should be much in the open air, with regular exercise; the mind should be occupied by congenial work, and, above all, a rapid withdrawal of the drug. Not total abstinence from the first day of treatment, but a gradual reduction each day, until by the end of a week, a total withdrawal should be effected. Nux vomica, hydr.astis, and strychnia will serve a good purpose as a tonic to brace the patient. Passiflora in teaspoonful doses, sulfonal, and trional may be useful in securing sleep. Gelsemium, baths, and massage will afford relief to the various aches and pains complained of by the patient.

Above all, the patient is to be attended by a companion, who is never to relax his vigilance for one moment, in order that the patient may be saved from surreptitiously securing the destroying drug.

The moral nature of the patient is to be strengthened and encouraged by engaging in plans to help those who may be even more unfortunate than himself. Due care must be taken to prevent the patient from taking any substitute, such as choral, cocaine, hyoscyamus, the bromids, and like remedies.

## **PLUMBISM.**

**Synonyms.**—Chronic Lead-poisoning; Saturnism.

**Definition.**—A chronic intoxication due to absorption of lead.

**Etiology.**—Individual susceptibility is much greater in some cases than in others, and sleeping in newly painted rooms, or drinking water flowing through lead pipes, has occasioned the disease.

The most common means of receiving the poison, however, is due to contact by workers in lead, such as paint manufacturers, painters, plumbers, workers in type-foundries, shot-makers, pottery-glaziers, lace-makers, calico-printers, glass-grinders, and the habit of dressmakers of biting off thread, some of which is lead-dyed.

It may be taken in the food, in which lead chromate is used to impart a rich yellow color, and may be found in bread, milk, butter, and candy. Chocolate, candy, and tobacco wrapped in lead-foil may also give rise to plumbism.

Women are more susceptible than men, and adults than children, though most likely on account of more frequent exposure rather than natural susceptibility.

**Pathology.**—The pathological changes occur in the peripheral nerves, muscles, kidneys, liver, mucous membranes, and bloodvessels.

The most constant changes are found in the peripheral nerves, the nerve-endings exhibiting a neuritis, to be followed by atrophy of the muscles. The cord is usually free from structural change, though degeneration may occur in patches, in the nerve-trunks. The atrophied muscles are pale in color, and, in advanced stages, show fibroid

degeneration.

In lead-encephalopathy, arterio-sclerosis of the cerebral bloodvessels is found, which sometimes is followed by softening of the brain, and by hemorrhages. Parenchymatous degeneration of the kidneys and liver is common.

**Symptoms.**—The symptoms vary, depending upon individual susceptibility, amount of lead absorbed, and the length of time of exposure. *Anemia* is an early and characteristic symptom, and usually of the chlorotic type. The hemoglobin may be considerably diminished, though the erythrocytes are rarely less than 3,000,000. There is impaired nutrition, with consequent loss of flesh and strength.

An almost constant and characteristic symptom is a blue line at the juncture of the gums with the teeth, and is clue to the presence of lead sulphid, formed by the union of the lead in the blood with sulphuretted hydrogen, the latter resulting from the decomposition of tartar upon the teeth. If the patient's teeth be free from tartar, the blue line may be absent. The gums are frequently soft, swollen, and spongy, and there is a metallic taste, and the breath is fetid.

Gastro-intestinal symptoms are also characteristic, *lead colic* causing the most intense suffering. Commencing with an obscure pain near the navel, it radiates in every direction, until the entire abdomen seems involved. The pain is griping and excruciating in character, the patient not infrequently screaming in his agony. The pain may extend to the back, hip, thighs, and legs; in fact, no part of the body seems free from pain.

The abdominal walls are tense and hard, sometimes knotted, and the umbilicus is drawn inward. The bowels are not tender to pressure, neither does pressure alleviate the pain, as in some other forms of colic. The patient is frequently troubled with nausea and vomiting, the material thrown off the stomach being a slimy fluid, more or less mixed with acrid bile. The tongue is pale, broad, and flabby, and its movements controlled with difficulty; the skin is soft and moist, the pulse not at first affected, but when the disease is long continued and severe, it becomes soft, feeble, and increased in frequency.

The bowels are obstinately constipated; if anything passes, it is in hard



scybalous masses, with a brownish water; the sphincters seem to be sometimes so contracted that neither urine nor feces can be passed, and it is with greatest difficulty that we can introduce the nozzle of a syringe.

Paralysis is common, especially that affecting the extensor muscles of the forearm, producing wrist-drop. Less frequently the deltoid, the biceps, the brachialis and pectoral muscles are involved.

*Saturnine arthralgia*, pain in the articulations, is not an uncommon symptom.

Cerebral symptoms, or lead-encephalopathy, occur where large quantities of lead are absorbed, and it is characterized by convulsions, delirium, coma, neuro-retinitis, and sometimes insanity.

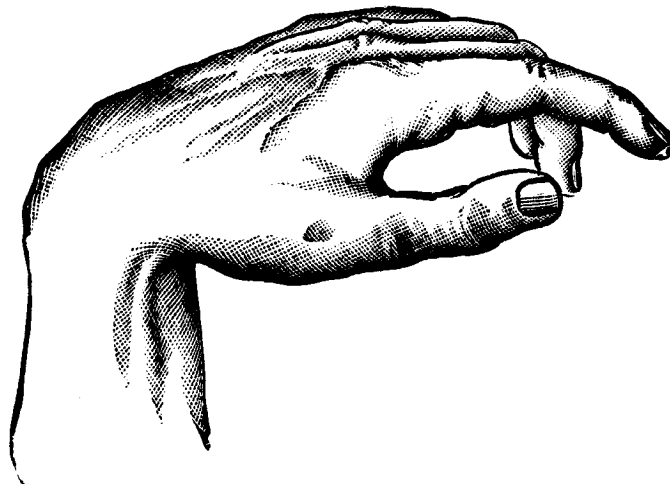


FIG. 54. Wrist-drop due to paralysis from lead-poisoning.

**Diagnosis.**—The history of exposure to lead-poisoning, the blue line on the margin of the gums, the wrist-drop, the anemic condition, and the *lead-colic* are such characteristic symptoms that the diagnosis is easily made.

**Prognosis.**—Unless degeneration of the heart and kidneys has taken place or severe cerebral symptoms develop, the prognosis is favorable.

**Treatment.**—“The first object of treatment is to mitigate the intense pain, and open the bowels, after which means to remove the lead should

be immediately used. Among the most efficient means for the relief of pain is the administration of chloroform in doses of from twenty to thirty drops every half hour or hour; it may be administered in mucilage, water, rectified spirits, or, what is preferable to all, glycerin. I usually order it in the following" manner:

Chloroform	1/2 ounce.
Glycerin	2 ounces. M.

“Sig. Shake well, and give a teaspoonful as often as required.

“If this can not be obtained, or fails, opium, belladonna, or hyoscyamus may be used in full doses in its stead. With this, alum in doses of ten grains every two hours, or iodid of potassium, in doses of one or two grains every hour, should be given as antidotes to the poison.

“To open the bowels, I prefer the use of enemata of compound powder of jalap and senna, or the same may be used internally, or a pill containing from half to one drop of croton oil, is recommended in bad cases; if the last were given, I should make the mass of extract of hyoscyamus, two to five grains. Sulphate of magnesia has been used for the same purpose, and is highly recommended, as is also the white liquid physic heretofore named.

“As a local application, chloroform applied to the abdomen is one of the most efficient; in using it, drop fifteen or twenty drops on a wet cloth, and apply for a few minutes and repeat. Hot fomentations have been used, but without much benefit, as has also the cold-water bandage. A cataplasm of tobacco is highly recommended, and I have no doubt will prove useful.

“I prefer the warm bath to other means. If there are no facilities for giving an entire bath, a large wash-tub filled with water as hot as can be borne, the patient sitting in it, answers a good purpose. A bath containing the sulphid of potassium, in the proportion of four ounces to thirty gallons of water, is recommended for its specific influence. The use of electricity I know to be beneficial, not only in relieving the pain, but, in the form of a galvanic bath, in removing the metal from the system. In the anorexia and slight attacks of colic that are frequently met with in painters and other lead workers, I have found nothing better than sodium sulphate in small doses. I usually order a solution of half an

ounce to four ounces of water, to be taken three times a day in doses of a tablespoonful." (Scudder.)

## ARSENICISM.

**Synonym.**—Chronic Arsenic Poisoning.

**Definition.**—A chronic intoxication caused by the continued absorption of arsenic.

**Etiology.**—Although a few cases result from eating arsenic for its exhilarating or narcotic effect, or to improve the complexion and to add brilliancy to the eyes, the great majority of cases are due to the slow absorption of the drug by persons employed in the industrial world, where this drug occurs.

Thus arsenical pyrites are found in silver, tin, copper, cobalt, and nickel ores, and, in the reduction of these metals, large quantities of arsenic is liberated, and the workmen exposed to it are poisoned. The use of Scheele's or Schweinfurth green by dyers, wall-paper workers, and artificial flower makers, is not an infrequent cause. Workers in glass, shot-makers, and taxidermists, also, are liable to arsenic poisoning.

Extremely susceptible individuals may be poisoned by living in rooms where the carpet, wall-paper, draperies, ornaments, toys, etc., are colored with arsenic dyes. The disease may also be incurred by the administration of Fowler's solution.

**Pathology.**—Degeneration of the peripheral nerves similar to that occurring from lead is found, and occasionally the anterior horns of the spinal cord undergo the same changes.

**Symptoms.**—The most characteristic symptoms of arsenic poisoning are anemia, catarrhal symptoms, cutaneous eruptions, and those due to neuritis. The patient gradually assumes an ashen-gray or white color, with loss of flesh and strength, the anemia being of the chlorotic type. The eyelids become puffy, especially when the poison is due to Fowler's solution.

Catarrh of the upper respiratory passages is common, coryza being a

chief symptom. Gastro-intestinal catarrh is manifested by nausea, especially by pain and diarrhea. Cutaneous eruptions are common, such as urticarial, eczematous, herpetic, and pemphigoid. A bronze pigmentation is sometimes seen. The most characteristic symptoms of arsenic poisoning, however, are those arising from neuritis, and as a rule are more marked in the leg extensors and peroneal muscles. There may be, in the earlier stages, a hyperesthesia of the nerve-trunks and muscles, followed by perverted sensibilities (paresthesia), the patient experiencing a numb, tingling, or crawling sensation, to be finally replaced by anesthesia.

Paralysis of the lower muscles is frequent, and rapid atrophy of the muscles may take place. The sphincters of the rectum and bladder are not usually affected.

**Diagnosis.**—The history of the source of poisoning, together with the characteristic symptoms already noted, render the diagnosis comparatively easy.

**Prognosis.**—Although a chronic affection, the disease is generally amenable to treatment.

**Treatment.**—A removal from the exciting cause, such as change of occupation or withholding the drug, is, of course, absolutely necessary. Gastro-intestinal irritation will be relieved by small doses of ipecac, bismuth subnitrate and mint-water, peach-tree infusion, and remedies of a sedative nature.

As soon as the hyperesthesia is overcome, electricity and massage will be beneficial for the neuritis and paralysis. To eliminate the arsenic, iodid of potassium is regarded as a specific. The nourishment should be liquid, bland, and easily digested.

## MERCURIALISM.

**Synonyms.**—Ptyalism; Chronic Mercurial Poisoning.

**Definition.**—A chronic mercurial poisoning, caused, either by ingestion of the drug, or by inhalation or absorption of the mineral in the industrial pursuits.

**Etiology.**—Ptyalism from calomel has become quite rare in recent years, since this much abused drug has found its legitimate use in medicine; however, to one peculiarly susceptible to the drug, small doses may give rise to mercurial poisoning.

The most common cause is the inhalation of the vapor of the mineral by workmen engaged where this mineral is used; thus workers in quicksilver-mines, especially those in smelters, also mirror-gilders, makers of thermometers and barometers, and all who use the salts of mercury in the various trades.

**Pathology.**—No marked changes are found in either the central or peripheral nervous system. Acute inflammation of the mouth, stomach, and bowels are the most constant lesions found. Irritation, and frequently inflammation of the kidney, is also noted in some cases, while degeneration of the liver is not an uncommon sequence.

**Symptoms.**—The early symptoms are swelling of the gums, which become tender, soft, and spongy, to be followed by ulceration. The breath is offensive, and a metallic taste is usually present. Ptyalism is a characteristic symptom. The teeth become loosened, and sometimes fall out. Necrosis of the jaws may occur in severe cases.

Diarrhea, with abdominal pains, is usually present. The urine becomes scanty, high-colored, and contains albumin and casts.

Tremors are characteristic, and are generally first noticed in the tongue and lips, but gradually affect the entire voluntary muscular system.

Paralysis of the various muscles may occur, though they do not atrophy. Arthritic pains are experienced, and the patient gradually becomes anemic and emaciated.

**Diagnosis.**—Given the history of exposure to the metal, or ingestion of the drug, together with the stomatitis, ptyalism, ulceration, tremors, paresis, etc., and the diagnosis is easily made.

**Prognosis.**—The prognosis is generally favorable.

**Treatment.**—If due to the use of mercury, the drug must, of course, be

withheld; and if due to exposure in any of the industrial pursuits, the patient must be removed from the offending cause. As a wash for the stomatitis, potassium chlorate and hydrastine phosphate are almost a specific. The same agents are also of much benefit given internally.

Phytolacca	20-30 drops.
Water	4 ounces. M.

Sig. Teaspoonful every two hours will give good results.

To aid in the elimination of the mineral, potassium iodid may be used, and sulphur-baths practiced. Galvanism is also useful in eliminating the drug.

## **POISONING BY INFECTED FOOD.**

**Synonym.**—Ptomain Poisoning.

**Definition.**—An acute poisoning, due to the ing'estion of food in which putrefactive changes have already taken place; or the food taken may contain pathogenic micro-organisms which develop toxic conditions after being- swallowed; or, kistly, the food may be in good condition when swallowed, but undergoes putrefaction in the large or small intestine, as when food is eaten hurriedly, while the patient is overexcited, overheated, or exhausted,

Ptomain poisoning, but little heard of a few ye;irs ago, is almost of daily occurrence, owing, no doubt, to the large consumption of canned goods, in which carelessness in the selection, preparation, and handling of the foodstuffs is an important factor; or the animal maybe killed when suffering from some disease. The delivery of milk from long distances during the hot summer months may also be fruitful sources of poisoning.

*Meat-poisoning.*—Tainted meats, such as warmed-over meat-pies, pork, veal, etc., and mincemeat, sausages, chicken salads, head-cheese, and various canned meats, are responsible for violent symptoms of poisoning.

**Symptoms.**—The symptoms are those of acute gastro-enteritis, and

usually come on suddenly. Sometimes the initial lesion is a chill, followed by fever. The patient is seized with sharp, colicky pains, and there is vomiting and purging, with severe cramps in abdomen and legs. In severe cases, prostration early follows; the pulse becomes small and frequent; the extremities become cold; the skin relaxes, and is covered with a cold, clammy perspiration; the mind becomes dull; there is a disturbance of vision, the pupils are dilated; the face becomes pinched, and the patient passes into a collapse, which may be followed by death. The history of the case, with the above symptoms, renders the diagnosis comparatively easy.

*Fish-poisoning.*—Certain fish contain poison glands and ovaries, and the ingestion of these produces an intoxication. Thus, in Japan, the disease called “Kakke,” which prevails during the summer-time, is due to this cause, and the “Clupea Venenosa,” a fish found in the West Indies, is considered poisonous from a similar cause. In middle Europe, especially in Germany, the eating of sick “barbels” gives rise to severe gastro-enteritis known as barbel-cholera, while in Russia fish-poisoning often results from eating sturgeon and salmon suffering with an infectious disease peculiar to these fish.

In our own country, the use of tainted canned fish, eels, mussels, crabs, oysters, lobsters, etc., is followed by toxic conditions. The symptoms are similar to those already mentioned for meat-poisoning.

*Milk-poisoning.*—In 1884, Vaughan discovered a specific chemical poison in milk and its products, and called it tyrotoxin, and the excessive death-rate from summer complaint in bottle-fed babies can be traced many times to the chemical changes which have taken place in the milk. This poison also occurs in cheese, ice-cream, frozen custards, cream-puffs, and other articles if made from infected milk.

The symptoms of all these ptomain-infected foods are similar; namely, those of gastro-enteritis, and vary only in degree, according to the stage or degree of toxicity of the infecting principle.

**Prognosis.**—The prognosis is generally favorable.

**Treatment.**—The first object is the removal of the offending material, though nature generally is the first to come to the patient's assistance by producing free emesis and catharsis. If, however, this has not taken

place, the stomach should be thoroughly washed out by copious libations of warm saline solution, mustard-water, lobelia infusion, or powdered ipecac, to be followed by castor-oil or Epsom salts.

To overcome the gastric irritability, small doses of specific aconite and ipecac, or gelsemium or rhus tox., should be given. An infusion of neutralizing powder will afford relief when the irritability is of unusual severity. Bismuth subnitrate and mint-water will also be useful for this painful and unpleasant symptom. Should there be threatened collapse, stimulants' would be in order.

For the poisonous effects of the ptomains, echinacea, sodium sulphite, potassium chlorate and hydrastin, and such other antiseptics as the symptomatic conditions called for, would be used.

### **SNAKE-POISONING.**

Although there are quite a variety of snakes found in the United States, there are only two, the bite of which is attended with danger. That of the "rattlesnake" (*Crotalus horridus*), and the "copperhead" (*Ancistrodon contortrix*).

**Symptoms.**—The rapidity of infection from a snake-bite depends upon the way the venom is introduced. Thus, if the bite be in the subcutaneous tissues, the poison is more slowly absorbed, and a longer time is required for the characteristic symptoms; but if a vein be penetrated in the biting, the symptoms are noticed in a few moments. If taken by the mouth, as in sucking the poison from the wound, the poison is said to be harmless, unless there be an abrasion of the mucous surfaces of the digestive tract.

Upon inoculation of the poison, severe pain takes place in the wound, and the parts rapidly become swollen, tender, and discolored. Constitutional symptoms early develop and great prostration ensues; the pulse is small and frequent, the pupils are dilated, a cold sweat appears, there is nausea and vomiting, and the patient staggers when attempting to walk. Death may occur in ten or twelve hours.

**Treatment.**—In 1871, Dr. H. C. Myers began the use of echinacea for the venom of the rattlesnake. The Sioux Indians had successfully made



use of the scraped root for rattlesnake-bite, and Dr. Myers began investigating the action of the drug. So favorably was he impressed with its efficacy, that, after collecting several hundred cases of recovery in man and beast, he began experimenting upon himself. He injected the venom of the rattlesnake into the first finger of his left hand; the swelling was very rapid, and in a few hours extended to the elbow. Six hours after the introduction of the poison, he took a teaspoonful of the tincture, bathed the parts thoroughly with the same agent, and went to sleep. Five hours later he awakened free from pain, and a disappearance of the swelling.

In the absence of echinacea, whisky is usually freely given. No matter what agent be used, it is a good plan to extract as much as possible of the poison by sucking the wound and spitting out the poison, though there is but little danger from swallowing the virus, if the mucous surfaces are not abraded.

Echinacea has been successfully used in the bites of the tarantula and other venomous insects, and no doubt would be equally successful in poisoning from the bite of the copperhead.

## **HEAT-STROKE.**

**Synonyms.**—Sunstroke; Coup de Soleil; Insolatio; Febris Solarie, or Sun Fever; Thermic Fever.

**Definition.**—Heat-stroke is the result of exposure to intense heat, either from the direct rays of the sun, or the radiation of blasts or furnaces, or to an overheated atmosphere.

**Etiology.**—Among the predisposing causes may be mentioned intemperance in drinking spirituous or malt liquors, physical or mental exhaustion, or anything that impairs the vital force or the resisting power of the body. A moist atmosphere, owing to interference with evaporation and the consequent cooling of the body, favors heat-stroke.

The immediate cause is always exposure to heat, either natural or artificial, and this excessive heat, acting upon the “heat center or vasomotor center or nerves,” produces thermic fever, or heat exhaustion.

Lambert and Van Gieson hold to the theory that sunstroke is due to auto-intoxication, heat being only a contributing cause. Sunstroke occurs most frequently among bricklayers, roofers, masons, hod-carriers, teamsters, and soldiers upon hard marches, especially if they are beer-drinkers.

Heat-stroke occurs most frequently among stokers, workers in foundries, glassworks, boiler-rooms, laundries, and in all cases where the heat is confined.

**Pathology.**—Owing to the excessive heat of the body, putrefactive changes occur very early. If a post-mortem examination is made soon after death, the left heart will be found contracted, while the right heart will be engorged, and the venous trunks filled with dark semi-fluid blood. There is also venous engorgement of the brain, spinal cord, and lungs, and sometimes degeneration of the spleen and kidneys.

Granular degeneration of the ganglion cells of the brain and spinal cord has been observed.

Echymoses and extravasations of blood are found in the skin and mucous membranes, and also around the cervical sympathetic ganglia, the vagus, and phrenic nerves. The blood-corpuscles are crenated and show a diminished tendency to the formation of rouleaux.

**Symptoms.**—There may be prodromal symptoms, such as dizziness, intense burning headache, chromatopsia or colored vision, and a hot, dry skin. Usually, however, the attack comes on suddenly, and the patient loses consciousness. The breathing is stertorous, or shallow and rapid, the respiration varying from thirty to fifty per minute. The face is flushed or cyanotic, there is throbbing of the carotids, and the pulse is rapid, from 130 to 160 beats per minute. The temperature for mouth or rectum is rarely less than 108°, and may reach 113° or 115°. The skin is hot and dry, though later may become relaxed and bathed with perspiration. There is often clonic convulsions. The pupils are generally contracted, and the conjunctiva injected. Grinding the teeth is a common symptom. Incontinence of urine and feces occurs in a number of cases. Vomiting and purging may occur, and are to be regarded as unfavorable symptoms.

**Diagnosis.**—The circumstances under which the attack comes on, and

the characteristic symptoms noted, render the diagnosis comparatively easy.

**Prognosis.**—In the severer forms of the disease, especially if not seen early, the mortality is high. Many cases recover slowly, and weeks or months elapse before the patient entirely recovers his mental and physical equilibrium. In some cases, the patient is never able to stand high temperature after once undergoing heat-stroke.

**Treatment.**—Prophylactic measures should be encouraged during the heated term. Alcoholics, and especially beer-drinkers, should be cautioned as to the danger of drinking stimulants during excessively hot weather, and those working in the sun should wear light clothing, and place a wet cloth or green leaves, preferably cabbage-leaves, in the hat. If dizziness is noticed, or the person exposed finds perspiration scanty or absent, he should immediately suspend work and seek the shade.

If the attack is mild, there may be only need for stimulants to overcome the sense of prostration. Belladonna, nux vomica, cactus, carbonate of ammonia, strychnia, and like remedies will be used as they may be indicated.

In a more severe case, and where the temperature is very high, strip the patient of all clothing, and sponge him with hot water, at the same time have two or more assistants fan him vigorously. Any one who has not pursued this course will be surprised how rapidly the temperature will be reduced. The sponging with hot water determines the heat to the surface and the fan secures rapid evaporation. Aconite, rhus, gelsemium, and such sedatives as may be indicated should be given, but as a temperature-reducer, nothing equals the sponging with hot water, and the vigorous use of the fan. For nausea, an infusion of neutralizing powder with a little brandy, or bismuth and mint-water, rhus tox., ipecac, or peach-tree infusion, will be found beneficial.

## **OBESITY.**

**Synonyms.**—Lipomatosis Universalis; Polysarcia Adiposa.

**Definition.**—An excessive accumulation of fat, impairing the bodily functions, or rendering the patient uncomfortable.

It is difficult to draw the line between the normal and abnormal amount of adipose tissue, though we may be safe in classifying an individual as obese whenever the fat becomes burdensome, and as soon as the function of any part becomes impaired thereby, it becomes a disease.

**Etiology.**—In obesity, as in most diseases, there are a number of predisposing causes, among which may be mentioned, first:

*Heredity.*—From fifty to sixty per cent of obese people can trace the condition to parents or grandparents.

*Age.*—While we meet with obesity in children, the most favorable time for an increase of adipose tissue is after the age of forty. The menopause also favors the deposit of fat.

*Sex.*—Women are more prone to obesity than men.

*Race.*—Corpulency is found more frequently among the Germans and Hebrew races than among the English.

*Disease.*—Certain diseases predispose to obesity. Gout and diabetes, especially, may be named, and it is not uncommon to find this condition in chlorotic girls. It frequently follows typhoid fever, and develops after castration and ovariectomies.

*Habit.*—Sedentary habits are prone to result in obesity, since oxidation is deficient in all cases of corpulency.

The existing causes of obesity are undoubtedly due to overeating and drinking, especially fat-producing foods, and the use of alcohol, beer, and sweet wines. While the carbohydrates and fats are more prone to produce obesity, even the albuminoids will give rise to the same condition when more is taken than is necessary for the daily waste. This is especially true when the patient leads an inactive life, since active muscular contractions lead to the decomposition of a large amount of fat. Strümpell says, in the daily ingestion of five or six glasses of beer, there is taken into the system, from this source alone, one-half the total amount of starch required by the system. The obesity of beer-drinkers is thus readily accounted for.

**Pathology.**—The subcutaneous cellular tissue is the first to receive the fatty deposits and the “*panniculus adiposis*” soon attains considerable thickness. The face becomes full, the neck enlarges, the double-chin develops, the chest broadens, and, in women, the breasts may become enormous, owing to fatty deposits. The abdomen becomes prominent, and as a result of overhanging portions, intertrigo of the groin, the under surface of the breasts, and between the nates, is common.

The internal organs also share in the general deposit. Thus, the mesentery, mediastinum, pericardium, and capsules of the kidney show the accumulation of fat. In more severe and serious cases, layers of fat are deposited about the heart, fatty overgrowth, and in the muscular structures fatty infiltration or degeneration occur. This is attended by impaired respiration and circulation, on slight exertion. Thus the breathing is rapid, the pulse small and feeble, or irregular. The same changes may take place in the liver and kidneys. We are not to understand, however, that these degenerations take place in all obese persons, for many fat people enjoy good health.

**Symptoms.**—For a time the only symptoms are those of inconvenience, and the increased fat may be somewhat burdensome; as the fat progressively increases, however, there is impairment in the respiratory and circulatory functions. On slight exertion, such as rapid walking, climbing a hill, or ascending stairs, the patient experiences difficulty in breathing, or as he may express it, “is winded.” The pulse becomes feeble on such occasions, and not infrequently is quite irregular. At times there is severe palpitation.

The appetite is often impaired and digestion feeble. Constipation is a common condition. Catarrhal conditions of the respiratory apparatus often follow obesity. In some there is mental lethargy, the individual being tired and sleepy. The temperature is often subnormal.

**Diagnosis.**—The only care in the diagnosis is to distinguish the complications when they exist.

**Prognosis.**—This is favorable when the patient is willing to subscribe to the dietary prescribed by his attendant, and will pursue daily systematic exercise, followed by the graduated bath.

**Treatment.**—The *most important* part of the treatment consists in

pursuing such methods as will bring about the oxidation of the fat already deposited, and prevent the formation of new supplies. The most efficient means at our command to bring this about is exercise and diet.

In restricting the quantity of fat-producing foods, we are to be careful and avoid the mistake of too rigid a diet, or we will do injury to the body itself. When the individual is weakened by diet, a more generous list must be furnished.

Various diet lists have been suggested for the reduction of adipose tissue, Banting's, Ebstein's, and Oertal's being the ones most commonly used. Each list has its defects, and one can usually get better results by selecting parts of each than by adhering strictly to one. Banting's diet list is largely nitrogenous, the fat and carbohydrates being reduced to a minimum, and is as follows:

*Breakfast.*—Meat or fish, excepting pork or salmon, four or five ounces; tea, without cream or sugar; toasted white bread, about one ounce.

*Lunch.*—Meat, five or six ounces; vegetables, exclusive of potatoes; toasted white bread, one ounce. No farinaceous dishes, no champagne, port-wine, or beer; red wine, or sherry if desired, two or three glasses.

*Afternoon.*—Fruit, two or three ounces; a little toast; tea.

*Evening.*—Meat or fish, three or four ounces; red wine, claret, water without limit.

Ebstein's diet allows twice the amount of fat, but restricts the carbohydrates, while Oertel favors less fat than Ebstein, but doubles the quantity of carbohydrates, and restricts fluids.

Banting's diet is, perhaps, theoretically the best, but unfortunately is not the most practical, for it is impossible for the body to maintain its metabolic equilibrium on an exclusive nitrogenous diet, and though the fat rapidly diminishes on such a diet, the patient grows weak, nervous, and sleepless. An exclusive nitrogenous diet also gives rise to gastrointestinal disturbances, and various dyspeptic symptoms result. Although one can not prescribe the same diet for every obese person, a happy mean may be reached by combining portions of the three diet lists.

Thus, for *breakfast* an orange, a small bit of steak or fish, one ounce of toasted white bread, or shredded wheat biscuit, one cup of clear tea, no sugar or cream.

For *lunch*, steak or fish, four ounces; small piece of toast, or two rolls; *green* vegetables, fruit, and one cup of clear tea.

*Dinner*.—Steak, roast-beef, or fish, four to six ounces, or one or two eggs, green vegetables, fruit, and black coffee. Butter may be used moderately. Alcohol, beer, and wines should be prohibited, but water may be taken freely two hours after a meal. In some cases, water should be limited to one pint in twenty-four hours. Although the patient may be anxious for a rapid decrease in weight, the safer plan is to gauge the diet, so that the patient will lose from three to five pounds per week.

The patient should retire at 10 P. M., and arise at 6 A. M., eight hours being sufficient for fat people. He should take at least three baths a week, and, if robust, a daily bath. If the heart be good, cold baths are preferred ; but when there is cardiac weakness, the hot bath should be recommended.

*Exercise*.—To increase oxidation, the patient must take daily exercise in the open air,—walking, horseback-riding, swimming, rowing, tennis; in fact, any exercise that will bring into play a large number of muscles and produce free perspiration. When there is cardiac feebleness, care must be taken that the exercise be not too long nor too severe. The medicinal treatment is not very satisfactory, though some reduction in weight may follow, usually, however, at the expense of the patient's strength; the most commonly used agents being the juice of the phytolacca berry, and thyroid extract.

## PART XI. ANIMAL PARASITES.

### PSOROSPERMIASIS.

Psorosperms, also known as sporozoa, belong to the lowest form of *protozoa*, and owing to their being found within the cells are known as *cytozoa*.

The *ameba coli* belongs to the *protozoa*, and is associated with tropical dysentery, and is found in the stools and the coats of the intestines; also in tropical abscesses of the liver.

The *hematozoa* of malaria has been considered in the etiology of malaria, where they were classified with the *protozoa*.

*Coccidium Oviforme*.—This species of psorosperms occasionally gives rise to hepatic diseases in man, though in animals, especially in the rabbit, it is quite common. It gives rise to the formation of nodules or tumors in the liver, which may be of sufficient size to be palpable. The liver is quite tender, physical examination causing pain. There may be chills, followed by severe fever, terminating in death. When they invade the kidneys and ureters there is hematuria and a constant desire to micturate.

The *coccidium perforans* and the *coccidium bigeminum* infect the intestinal canal, giving rise to nausea, vomiting, diarrhea, and symptoms of a typhoid character.

*External or cutaneous coccidia* give rise to papillomatous developments of the skin, and are located on the face and abdomen. Coccidia are also found in Paget's disease of the nipple, and in carcinoma and epithelioma, but whether they possess any etiological significance has not yet been determined.

**Treatment.**—Aside from prophylactic measures, treatment has been experimental and not attended by very brilliant results. A thorough cleansing of such vegetables as greens of various kinds, lettuce, cabbage, spinach, water-cresses, etc., that possibly may be contaminated from the excreta of rabbits and mice, is all-important in the prevention



of the disease.

## **DISTOMIASIS.**

Several forms of trematodes are found in animals; notably, the horse, goat, sheep, ass, rabbit, and other herbivorous animals, and occasionally they are found in man. The most important of these rare parasites are:

1. *Pulmonary Distomiasis*.—The Asiatic lung or bronchial fluke is found in China, Japan, occasionally in Europe, and one case has been reported to date, in the United States.

2. *Hepatic Distomiasis*.—Of the liver flukes, five species are found in man. It is said to be found quite frequently in China, Japan, and India, and a number of imported cases have been recorded in the United States.

3. *Intestinal Distomiasis*.—This intestinal fluke has been found in man in India, Egypt, and Japan.

*Hemic Distomiasis*.—Endemic hematuria is caused by the blood fluke, and is found in Africa, Arabia, Persia, India, and Egypt. The fluke is a flat worm, and may reach the length of an inch, and a third of an inch in width. The symptoms are referable to the various organs in which they are found, and are not sufficiently characteristic to be diagnostic.

**Treatment**.—The treatment has been unsatisfactory, since nothing has as yet been found that will kill the parasite.

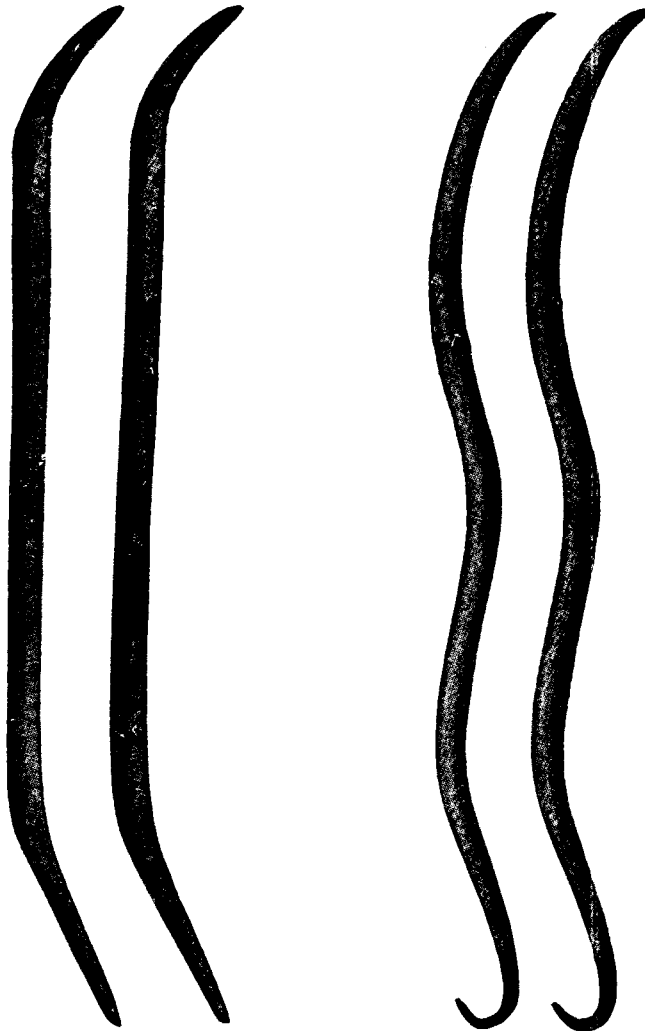
## **NEMATODES.**

Of the round worms most commonly found infesting the human body are the *ascaris liimbricoides*, *ascaris vermicularis*, *trichocephalis dispar*, and the *trichina spiralis*.

## ASCARIASIS.

**Synonym.**—*Ascaris Lumbricoides* (long round worm).

**Natural History.**—This is found more frequently than any of the intestinal parasites, and though seen at any time of life, occurs most frequently in children under ten years of age.



Permission Battle & Co.

ADULT MALE.

ADULT FEMALE.

FIG. 55. ASCARIS LUMBRICOIDES.

It resembles the common earth or angle worm, is cylindrical, pointed at both ends; head slightly incurvated with a transverse contracture beneath it; mouth triangular; body transparent; color, light yellow or reddish, with a faint line down the side; gregarious, viviparous; from six to fifteen inches long in the female, and from four to eight inches in the

male.

It inhabits principally the ileum, but sometimes ascends into the stomach, and may creep out of the mouth and nostrils, or it may enter the trachea through the larynx. The hepatic ducts have been invaded, followed by abscesses, and cases have been reported where they have ascended the Eustachian tube, penetrating the tympanic membrane. Not infrequently they travel to the rectum and pass away at the anus.

**Symptoms.**—The child is generally poorly nourished, has a capricious appetite; the tongue is loaded with a moist, yellowish, dirty coating; there is an offensive breath and enfeebled digestion. The child is restless at night, tossing in his sleep, grits his teeth, starts in his sleep, frequently awakening in a fright. There is often seen a white ring around the mouth, and the child frequently picks its nose. In the afternoon the cheeks become flushed, and a slight fever makes its appearance.

While the above symptoms are usually regarded as pathog-nomonic, they may all be present and no parasites found, or they may all be absent and the child pass worms, the only positive “*signs*” being the passage of the parasites, which may be by way of the bowel or during a paroxysm of coughing.

A little patient of mine, suffering with whooping-cough, during a paroxysm of coughing, vomited freely, expelling three large worms, eight, ten, and twelve inches long, respectively, there being no suspicion of worms before their expulsion.

**Complications.**—The most serious complication will be obstruction of the bile-ducts, and would be recognized by jaundice and impaired digestion. Intestinal obstruction from impacted parasites has occurred.

**Diagnosis.**—This can only be positively determined by the discovery of the parasites in the stool, or by their being vomited, or crawling from the mouth.

**Prognosis.**—It is generally favorable, though should they penetrate the bile-ducts, fatal results would most likely follow.

**Treatment.**—The treatment will not only consist in removing the

parasites, but also in improving the general health, so as to render the soil "sterile," for parasites will not inhabit a healthy intestinal canal.

Fortunately we have a specific in santonin, and as this remedy is the least disagreeable of the many anthelmintics, it is the one most universally given. To get the best results, the agent should be administered on an empty stomach, and so is given *before* each meal, the child being placed on a light diet for forty-eight hours, and not allowed to "*piece*" between meals. I usually give, of the first trituration, about as much as will lie on a dime, three times a day. In addition the child should have a dose of sulphur twice a week for several weeks.

Spigelia is another specific for the removal of the round worm. A not unpleasant and efficient vermifuge is the following':

Fluid Extract of Spigelia	1 - 2 drams.
Powdered Santonin	15 grains.
Simple Syrup	3 ounces.
Essence Peppermint	10 drops. M.

Sig. Teaspoonful before each meal.

The bottle should be well shaken before each dose is given, as the santonin will not dissolve in the above vehicle. A laxative should be given the third day of the treatment.

After the removal of the parasites, treatment should be continued to bring about a better condition of the digestive tract and to improving the general health. A bitter tonic, plenty of fresh air, a nutritious diet, and the restriction of overindulgence in candy and sweetmeats, will give the best results.

## **OXYURIS VERMICULARIS.**

**Synonyms.**—*Ascaris Vermicularis*; Pin-Worm; Seat-Worm; Maw-Worm.

**Natural History.**—The *ascaris vermicularis*, or small threadworm, has its habitat in the rectum, though it is sometimes found higher in the bowel, and occasionally in the vagina in the female.

The head is subulate, and divided into three vesicles, in the middle of which it receives nourishment; skin at the sides of the body finely crenate or wrinkled; tail finely tapering and terminating in a point; gregarious, viviparous, and about half an inch long.

**Symptoms.**—The *ascaris vermicularis* makes itself known by an intolerable itching and crawling sensation about the anus. At first it generally comes on after the little patient gets warm in bed, the irritation being so great that sleep is impossible; at last, they are more or less troublesome all the time. The irritation is occasionally so great as to impair the health, and occasionally gives rise to convulsions.

“The worm is occasionally found wandering outside to the sexual organs, which, from the itching caused, sometimes leads to masturbation in children.

They are readily detected in the feces. Infection probably takes place through the water, or possibly through salads, such as lettuce and cresses. A person, the subject of the worms, passes ova in large numbers in the feces, and the possibility of reinfection must be scrupulously guarded against.

**Treatment.**—Many remedies have been recommended for the *ascaris vermicularis*, but it is very questionable whether vermifuge medicines have any effect upon the parasite. Its local habitat being the rectum and lower portion of the colon, all that will be necessary for their removal is an injection of strong salt water. A strong decoction of quassia is also attended with good results.



FIG. 56. *OXYURIS VERMICULATUS*.  
Group of pin-worms, natural size. Battle & Co.

Having thoroughly cleared the bowel of the irritating parasite, the tonicity of the bowel must be improved. Nux vomica, sulphur, and such agents as will secure a normal peristaltic action of the intestine, should be administered.

### **TRICHOCEPHALUS DISPAR.**

**Synonyms.**—Long Thread-Worm; Whip-Worm.

**Natural History.**—The trichocephalus dispar, or long threadworm, is found in the intestines, both large and small, and in the stomach, and especially in sickly children and those who are poorly nourished.

“The body is obese, slightly crenate, beneath smooth, finely striated on the forepart; the head obtuse and furnished with a slender retractile proboscis; tail or thinner part twice as long as the thicker, terminating in a fine, hairlike point; about two inches long, and its color light yellow.” There may be several hundred of the parasites found before their complete extinction.

**Symptoms.**—The trichocephalus, although it may be found in large numbers, rarely produces any symptoms.

**Diagnosis.**—This is readily made by finding the presence of the worms or finding the characteristic lemon-shaped, hard, dark-brown eggs in the feces.

**Treatment.**—Vermifuges internally and irrigation of the bowels with saline solutions, will constitute the treatment. The after medication will be as directed for other intestinal parasites.

### **TRICHINIASIS.**

**Synonym.**—Trichinosis.

**Definition.**—A disease of the muscles due to the presence of the trichina spiralis, which results from eating raw or partially cooked pork.

**History.**—Owen was the first to name and fully describe this parasite,

in 1835, though it had been observed and described as “minute white masses” in 1821 by Hilton. To Zenker, however, belongs the honor of reporting the first clinical records, in 1860. The disease was at first diagnosed as typhoid fever, but a train of symptoms developed entirely different from that of enteric fever, the most prominent of which was an intense myalgia. After suffering for a month the patient died.

A post-mortem examination revealed the presence of sexually mature parasites in the intestines, embryos in the muscles in various stages, to those completely developed and encapsuled.

**Natural History.**—The adult female is from three to four mm. long; the male from 1.4 to 1.6 mm., with a short conical appendage on either side of the cloaca, behind which are two pairs of papillae.

The fully developed larva, or muscle trichina, measures from 0.6 to 1 mm. in length and is coiled in a capsule. Translucent at first, it soon becomes opaque, owing to infiltration of lime salts.

**Etiology.**—Infection takes place by eating- infected pork, and occurs in the following manner: The capsules of trachinse are digested in the intestines and the parasites set free, which become sexually mature in from two to four days. Each female produces several hundred young, requiring from three to five days for their development, or from the ingestion of the infected pork to the full development of the embryos, a period of from seven to nine days.

The female worm, after penetrating the intestinal wall, discharges the embryos into the lymph spores, thence into the bloodstream, which carry them to the muscles. Mere their further development is completed in about two weeks, when they reach the full grown muscle form.

As a result of their presence, an inflammation is set up, which results in the formation of a capsule in which one or more worms are entombed.

The capsule of connective tissue finally undergoes calcification. The parasite may retain its vitality within the capsule for years.

Swine are generally infected by eating, either intestinal discharges containing the infection or infected cadavers.

The trachina in pork can only be destroyed by thorough cooking, hence raw or rare pork should never be eaten.

**Pathology.**—The mucous membrane of the bowel becomes hyperemic and swollen; the solitary follicles, Peyer's patches, and the mesenteric glands undergo the same changes. The spleen is but little affected, though the liver, kidneys, and heart may undergo cloudy swelling or fatty degeneration.

The muscles are the parts most affected, and show the changes peculiar to myositis. The trichinous cysts are grayish-white, oat-shaped specks, arranged longitudinally in the muscle fibers. The muscles most affected are the diaphragm, the intercostal, the cervical, the laryngeal, and the ocular. In the extremities, the biceps and triceps are especially the seat of election.

**Symptoms.**—The symptoms vary according to the number of parasites ingested. Where but few are present, there may be an entire absence of any symptoms to suggest the lesion.

In typical cases, gastro-intestinal disturbances follow shortly after eating the infected meat. It may begin with malaise and nausea, soon to be followed by vomiting and diarrhea. At times it may simulate gastroenteritis, the vomiting and purging being accompanied by quite an active fever.

In the course of a week or ten days, symptoms of rheumatism appear, more in the *muscles* than in the articulations. The muscles become swollen, tender, and painful when moved, especially in flexion. If fever was present during the gastro-intestinal symptoms, it is now increased, or chilly sensations, followed by an active fever, may usher in the muscular symptoms.

Mastication and deglutition become painful, while flexing the extremities is attended by pain. Dyspnea is due to involvement of the diaphragm. Edema of the face, particularly the eyelids, is quite a constant symptom. Pruritus is often a troublesome feature, accompanied by various skin eruptions and profuse sweating.

Bronchitis is not an infrequent complication, while hypostatic pneumonia or pleurisy may occur. The urine is diminished in quantity,



is high-colored, and may contain albumin and casts. In severe cases, insomnia is a troublesome condition.

**Diagnosis.**—The diagnosis is made by the following characteristic signs: Gastro-intestinal symptoms, consisting of dry tongue, nausea, vomiting, and diarrhea, followed, in a few days, by soreness of the muscles of the neck and extremities; difficult mastication and deglutition; edema of the eyelids, and face; soreness and stiffness of the muscles at large; profuse sweating, attended by an urticarial eruption, and fever of a remittent type.

**Prognosis.**—In mild cases and in children, the prognosis is favorable. If large numbers of trichina are present in the meat, and they are not destroyed in the cooking, the case will most likely prove one of great severity, the mortality running from five to thirty per cent.

Persistent and profuse diarrhea, high fever, intense muscular soreness, difficult deglutition, profuse sweating, cardiac weakness, delirium, and coma, would suggest an unfavorable termination.

**Treatment.**—If it were possible to destroy all the rats that infest sties, and thus prevent swine from eating anything but grain and vegetables, and to drink only pure water, trichina would disappear, and prophylaxis will look toward the accomplishment of this end.

The most efficient means, however, is to thoroughly cook all pork, smoked, salted, or fresh, for this completely destroys the parasites.

The bowels should be evacuated as soon as possible after in-tected meat has been eaten, before the embryos have had an opportunity to penetrate the muscles. It is well to combine santonin, male fern, or thymol with whatever purgative that is used. Cathartics should be used for two or three days, that the bowel be thoroughly emptied of all the parasites.

For the soreness of the muscles, the hot bath will afford some relief. Macrotys in large doses might mitigate, to some extent, the myalgia. When the pain is extreme, morphia may be necessary. Should typhoid symptoms arise, baptisia, echinacea, the mineral acids, the sulphites, and chlorates would be used.

## CESTODES.

### TÆNIÆ OR TAPE-WORMS.

*Tænia Soleum* (Pork Tape-worm).—This variety of flat worms is not so often seen in our country as in Europe. It is from six to fifteen feet long. Its habitat is the small intestine—the ileum—and though usually found alone, there may be two or more in the same bowel.

It is divided into three parts, a head, neck, and a number of segments. The head is round and smaller than a pin-head. It has four suction disks and a double row of hooks, about twenty-six, hence it is called the armed tape-worm. A small, slender neck, about an inch long, is attached to the head, and then follow the segments or joints, proglottides, progressively increasing in length and breadth.

The segments contain both male and female organs of generation. The uterus runs through the middle of each segment. Here the thick-shelled eggs develop, each containing an embryo with its booklets.

The worm requires from three to four months for its development, and upon maturity sheds one or more segments, which, with their ova, pass with the feces into the world. For their further development, the ova must be taken into the stomach of the hog, where the shell is dissolved and the embryo set free. These penetrate the walls of the stomach and intestines, enter the blood-current, and are carried to the muscles where in two or three months they develop into cysts, from whose walls a newly developed tænia head—scolex—arises.

These cysts are known as *measles* or cysticerci. When taken into the stomach through eating *rare pork*, a new tænia develops in from three to four months.

*Tænia Saginata* or *Mediocanellata* (Beef Tape-worm).—This is the variety commonly found in this country. It is longer than the pork tape-worm, being from fifteen to forty or more feet long. The head is larger than that of the taenia soleum, is square-shaped, has four large sucking disks, but has no booklets, hence is known as the unarmed tape-worm. The segments are thicker, broader, and longer than those of the tænia soleum, and when segments are expelled exhibit a crawling motion in

contradistinction from the *Tænia soleum*, which are non-motile.

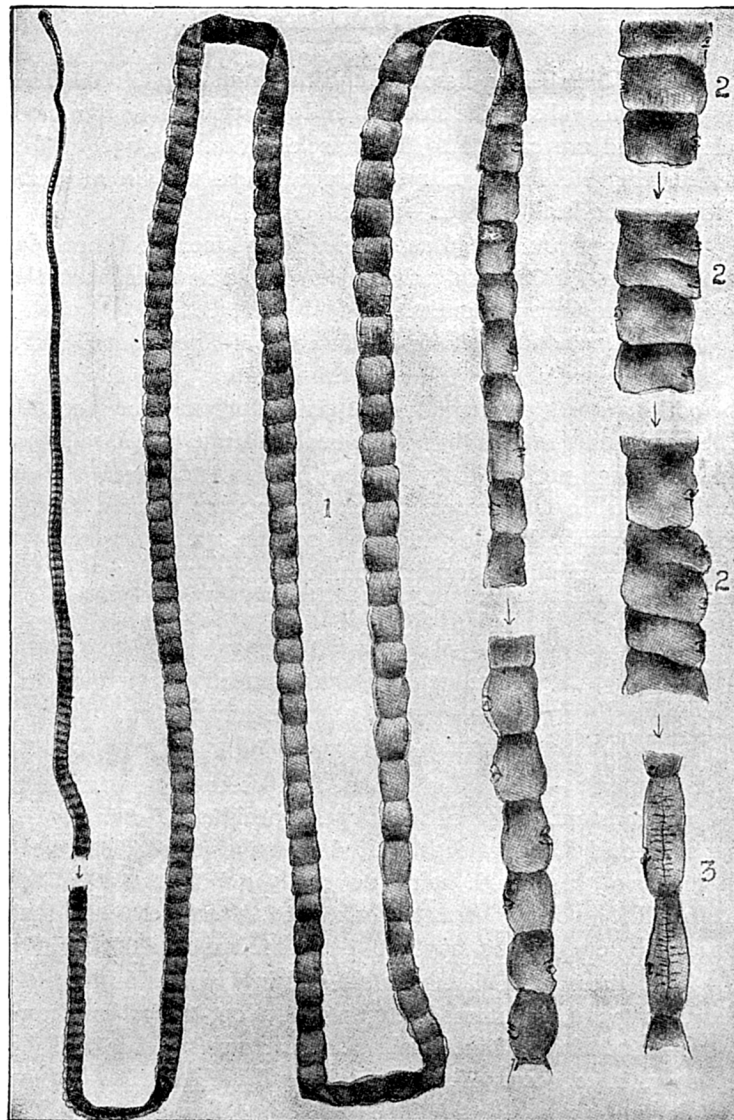


FIG. 57. TÆNIA SAGINATA. (Unarmed Tapeworm.)

1. Adult worm, natural size. Showing head and gradual increase in size and change in segments.
2. Odd, or irregularly developed segments occasionally met with. A trifle enlarged to show peculiarities.
3. Segments fully matured and detached.

The life history of this worm is about the same as the pork-worm, with this difference, the cysticerci do not inhabit pork, but are found in beef; hence the infection in man comes from eating rare or raw beef.

**Symptoms.**—The symptoms of the presence of a tape-worm are not constant. One of the largest specimens I ever saw was not suspected till the patient noticed a number of segments passed in the stool, his health being unusually good. At other times there will be colicky pains and diarrhea, alternated with constipation. There may or may not be a voracious appetite.

After the patient discovers the passing of one or more segments, nervous symptoms are apt to develop, the patient becoming melancholy or hysterical. Chorea, convulsions, and even epilepsy, have occurred; but this may have been a coincident rather than a result.

Though in most cases the health is but little impaired, we must admit that they may occasion severe illness.

**Diagnosis.**—This can only be positively made by the presence of segments of the worm or the ova in the stool.

**Prognosis.**—This is always favorable, no matter how long the worm has been present in the intestine.

**Treatment.**—The prophylactic treatment will consist in eating only thoroughly cooked pork and beef, and drinking pure water. Care should be taken to destroy the stools containing segments of the worms, so that animals may not take them into their digestive tract to further propagate them.

There are a number of reliable anthelmintics, though some are so nauseating, that they are rarely used, especially since we have at least two that rarely ever fail to bring good results, and yet are free from disagreeable sensations. The most prominent anthelmintics are male fern, pomegranate bark, pumpkin-seed, kousso, turpentine, chloroform, and thymol.

Before administering the selected drug, the patient should undergo preparatory treatment for twenty-four or forty-eight hours, which consists of fasting, or restricting the diet to two or three glasses of milk, and thoroughly emptying the bowels with salts or antibilious physic.

The agent that has *never* yet failed me, and I have used it a great many times, is “granatum.” It is not unpleasant, children taking it without the

least trouble. It should be given in bed, early in the morning, on an empty stomach, and the patient instructed not to get out of bed for at least two hours; this precaution must be insisted upon, as the remedy often produces dizziness if the patient assumes the erect position too soon after the ingestion of the agent.

One hour and a half after the administration of the remedy, give a full dose of Epsom salts and await results. As soon as the bowels move, the parasite *will* appear.

Dr. Webster speaks equally positive of thymol. After a similar preparation of the patient, he administers thirty grains of the powdered drug, to be followed in two hours by a second dose if the first fails to bring about the desired results. No matter what agent is used, it should be followed by a cathartic about an hour after its administration.

## **PEDICULOSIS.**

**Synonyms.**—Phthiriasis; Morbus Pediculosis; Lousiness.

**Definition.**—A local or general cutaneous irritation due to the presence of the louse, or pediculus, and is vulgarly known as *lousiness*.

There are three varieties of this parasite that are found in man, each selecting its own field of operation, and rarely invading any other territory, and that only by accident and is temporary. The pediculus capitis, or head louse, having for its field of operation the region of the scalp. The pediculus corporis, or body louse, has a larger field of operation and is on the general body surface, while the pediculus pubis has for its habitat the pubic region, though it may be found on other parts where the hairs are short and stiff, as the axillae, the eyebrows, the eyelashes, and the stiff hair of the breast.

*Pediculus Capitis.*—The head louse is much smaller than the body or clothes louse, and is about two mm. long and one mm. broad; head acutely triangular and provided with two hairy antennae, each of five articulations, and two eyes, a narrow thorax, with three hairy legs, provided with tarsal booklets, projecting from each side. The male is much smaller than the female, and is found in smaller numbers.

The ova, or nits, are minute, dirty-white, pear-shaped bodies, glued to the hair by chitinous substance. They hatch out in from six to eight days, and are sexually mature in from twelve to sixteen days. The female lays from fifty to sixty eggs in a week, or, according to Kaposi, a progeny of five thousand can be reared in eight weeks from a single female. According to Crocker, the color, while generally gray, varies according to the color of its host, being gray with blackish margins on Europeans, white on the Esquimaux, black on the Negro, and yellowish-brown on the Chinese.

**Etiology.**—While they may be found in all ages, they are most common among children, and those who neither wash or comb their hair frequently. They are conveyed from one to another by direct contact with an individual suffering with the parasites, or by using the same hat, brush, or comb.

**Symptoms.**—In healthy and well-nourished patients, the only marked symptom is the intolerable itching which causes the patient to scratch, not only at the seat of the parasite, but all over the scalp. They are more abundant in the occipital region where the hair is the thickest, and here may be found excoriations, which, in the poorly nourished and filthy, soon become pustular, producing impetigo contagiosa, or pustular eczema develops. If means are not used to destroy the parasites, and the hair is neglected, this pustular eruption extends to all parts of the scalp.

**Diagnosis.**—The diagnosis can readily be made by a careful examination of the head and finding the parasite or nits; the latter need not be mistaken for seborrheic scaly particles, if we remember that the latter can be removed by light brushing or shaking, while the former are firmly glued to the shaft of hair, and can not be removed by brushing.

**Treatment.**—Where the hair is matted or the nits abundant, it is better to have the hair cut short, though not absolutely necessary. The hair and scalp is to be thoroughly saturated with petroleum, (coal oil) and allowed to remain for ten or twelve hours, when the parasites and ova are entirely destroyed. This will be followed by thoroughly washing the head with warm water and soap; any good toilet soap may be used. Should there be impetigo or eczematous pustules, a bland wash or ointment should be used. The hair should be carefully combed with a fine-tooth comb, in order to remove the ova, shells, and parasites.

*Pediculus Corporis*.—The body louse resembles the anatomical peculiarities of the *pediculus capitis*, though much larger, and, like the latter, the female is of greater size. When not distended with blood, they are a light-grayish color. The female lays from seventy to eighty eggs, from which the young develop in from four to eight days, and are sexually mature in from twelve to fifteen days.

This parasite inhabits the clothes, the seams being their hiding-place, as well as their breeding-grounds, though sometimes the ova may be found on the lanugo hairs. It thrives better in impoverished subjects, alcoholics, tramps, and the unwashed class. It is found more frequently in adults than in children.

**Symptoms.**—The subjective symptoms are an intense itching-, burning, and formication that is distressing. As a result the victim scratches, and parallel wheals or lines are quite characteristic. On examining the skin, in addition to the traumatism made by the nails, will be found the characteristic mark of the parasite. This is the minute hemorrhagic speck, the result of the bite. It is not sensible to the touch, and must be carefully sought as one of the diagnostic traits.

A favorite location for the parasites is the neck-band of the shirt, and as they wander forth for a meal, the nucha and shoulders suffer most.

**Diagnosis.**—This will be made by the characteristic symptoms just named—evidence of scratching, hemorrhagic specks, and parallel wheals. A careful search of the seams of the clothes must be instituted for the parasite and ova.

**Treatment.**—Unless the ova are found upon the lanugo body-hairs, boiling, baking, or ironing the clothes with very hot irons, will destroy the parasites and their ova. A thorough bath with naphthol-sulphur soap, to be followed by the application of a weak carbolic wash, completes the cure.

*Pediculus Pubis*.—The “crab-louse,” or crab, is smaller than either the head or body louse. It is broader and flatter than the other varieties, the head is rounded, and provided with five pointed antennae, and is attached squarely to the body. The abdominal and thoracic portions show no division. The ova, ten to twenty in number, hatch in six to

eight days, and the young are sexually mature in two weeks.

**Symptoms.**— “Clinging to a couple of hairs, it digs deeply into the orifice of a hair follicle,” where it produces intense pruritus, attended by excoriations, papules, pustules, and other inflammatory symptoms. While commonly found in the pubic region, in very filthy persons it may also be found upon the eyebrows and eyelashes.

**Diagnosis.**—The diagnosis is made by the region involved in the itching, the presence of papules, and excoriations, and by finding the parasite and ova, which requires a very careful search, they being so much smaller than the other parasites.

**Treatment.**—While efficient, the old blue-ointment is unpleasant, and riot infrequently is followed by dermatitis in persons of delicate skin. A wash of four grains of corrosive sublimate to an ounce of water, or an application o-f strong cologne is far more pleasant and equally efficient.

A favorite application of Shoemaker's is the following:

Beta-naphthol	1 dram (4.0).
Cologne-water	4 ounces.



## WEIGHTS AND MEASURES.

### TABLE OF APOTHECARIES' WEIGHTS.

One Grain (Granum).....	gr. = a grain.
One Scruple (Scrupulus).....	℥ = 20 grains.
One Drachm (Drachma).....	ʒ = 60 “
One Ounce Troy (Uncia).....	℥ = 8 drachms.
One Pound (Libra).....	lb. = 12 Troy ounces.

### TABLE OF MEASURES OF CAPACITY OR FLUIDS.

One Minim (Minimum).....	M — a minim.
One Drop (Gutta).....	gtt = about ½ minim.
One Fluid Drachm (Fluidrachma)....	ʒ = 60 minims.
One Fluid Ounce (Fluiduncia).....	℥ = 8 fluid drachms.
One Pint (Octarius).....	℥ = 16 fluid ounces.
One Gallon (Congius).....	C = 8 pints.

### METRIC SYSTEM.

#### WEIGHTS.

One Myriagramme.....	Equals 10,000 Grammes.
One Kilogramme.....	“ 1,000 “
One Hectogramme.....	“ 100 “
One Decagramme.....	“ 10 “
One Gramme (the unit of weight) equals the weight of one cubic centimeter of water at 4° C.	
One Decigramme.....	Equals 0.1 Gramme.
One Centigramme.....	“ 0.01 “
One Milligramme.....	“ 0.001 “

#### MEASURES OF CAPACITY OR LIQUIDS.

One Myrialiter.....	Equals 10,000 Liters.
One Kiloliter.....	“ 1,000 “
One Hectoliter.....	“ 100 “
One Decaliter.....	“ 10 “
One Liter (the unit of measure) equals the volume of one cubic decimeter.	
One Deciliter.....	Equals 0.1 Liter.
One Centiliter.....	“ 0.01 “
One Milliliter.....	“ 0.001 “

### METRIC SYSTEM WITH EQUIVALENTS.

METRIC WEIGHTS.	EQUIVALENT.
One Myriagramme.....	Equals 22,046 lbs. Avoirdupois.
One Kilogramme.....	“ 15,432.35 Grains Troy.
One Hectogramme.....	“ 1,543.235 “ “
One Decigramme.....	“ 154.323 “ “
One Gramme.....	“ 15.432 “ “
One Decigramme.....	“ 1.543 “ “
One Centigramme.....	“ 0.154 “ “
One Milligramme.....	“ 0.015 “ “

**METRIC SYSTEM WITH EQUIVALENTS.**

METRIC MEASURES.	EQUALS	EQUIVALENT.
One Myrialiter.....	Equals	2641.7 Gallons.
One Kiloliter.....	“	264.17 “
One Hectoliter.....	“	26.417 “
One Decoliter.....	“	2.6417 “
One Liter equals 2.113 Pints.	“	0.264 “
One Deciliter.....	“	3.381 Fluid Ounces.
One Centiliter.....	“	2.704 Fluid Drachms.
One Milliliter.....	“	16.231 Minims.

**APOTHECARIES' WEIGHTS AND MEASURES, WITH METRIC EQUIVALENTS.**

WEIGHTS.	EQUALS	EXACT METRIC EQUIVALENTS.
1 Ounce Avoirdupois (437.5 gr.)	Equals	28.350 Grammes.
1 Ounce Troy (480 gr.)	“	31.103 “
1 Drachm Troy (60 gr.)	“	3.888 “
1 Scruple (20 gr.)	“	1.296 “
1 Grain.....	“	0.06479 “
1-10 Grain.....	“	0.006479 “
1-60 “.....	“	0.001079 “
1-100 “.....	“	0.000648 “
1-200 “.....	“	0.000324 “
1-500 “.....	“	0.000129 “

MEASURES.	EXACT METRIC EQUIVALENTS.	APPROXIMATE EQUIVALENTS.
1 Gallon equals 3.7854 Liters	Equals	4 Liters.
1 Quart “ .34636	“	1 “
1 Pint “ 473.180 cu. cent.	“	1/2 “
8 Fluid Ounces “ 236.590	“	1/4 “ or 240 c. c.
4 Fluid Ounces eq. 118.295 cu. cent.	Equals	1/8 Liter or 120 c. c.
1 “ “ “ 29.574	“	30 cubic Centimeters.
1 “ Drachm “ 3.697	“	“
1 Minim “ 0.061	“	“

Since one cubic centimeter of water weighs one gramme, the word “gramme” is often used instead of cubic centimeter for liquid measure.

**IMPORTANT INCOMPATIBLES.**

Acacia (gum), with alcohol iron, lead-water, and mineral acids.

Acids (mineral), with alkalies and relatively weak salts of other acids, such as bromides, chlorides, and iodides.

Alkalies, with acids and with relatively weak salts.

Antipyrin and antifebrin should be given with alcohol or water only.

Arsenic, with tannic acid, salts of iron, and lime and magnesia.

Bitter infusions and tinctures, with salts of iron and lead.

Bromides, with acids, acid salts, or alkalies.

Calomel, with antipyrin, alkalies, lime-water, salts of iron and lead, and iodide of potassium.

Camphor (spirit of), with water.

Carbonates, with acids and acid salts.

Chloral, with cyanides.

Chlorides, with silver salts, lead salts, and alkalies.

Chloroform (except in minute quantity), with water.

Corrosive sublimate, with alkalies, lime-water, salts of iron and lead, iodide of potassium, albumin, gelatine, and vegetable astringents. (It may, however, be advantageously combined with tincture of the chloride of iron and liq. acidi arsenosi, or with iodide of potassium).

Digitalis, with iron and preparations containing tannic acid.

Iron (salts), with anything containing tannic acid. Tincture of the chloride of iron, with alkalies, carbonates, mucilages, and preparations containing tannic acid.

Mucilages, with acids, iron salts, and alcohol.

Potassium chlorate (and potassium permanganate) should not be rubbed up with tannic acid or other organic oxidizable substance.

Potassium (iodide of), with all strong acids and acid salts. (See corrosive sublimate.)

Spirit of nitrous ether with antipyrin, sulphate of iron, tincture of guaiacum, and most carbonates.

Vegetable preparations holding tannic acid, with salts of iron and lead.

Alkaloids are precipitated or destroyed by tannic acid, alkalies, iodine or iodides, and chlorinous compounds.

### **POISONS AND ANTIDOTES.**

The following table contains suggestions for the proper treatment of those forms of poisoning most likely to occur. Though brief, they are all that will be needed to prompt the physician's memory:

*Nature unknown:* Provoke repeated vomiting; give bland liquids; stimulate, if necessary; keep up breathing.

*Acids—Sulphuric, Nitric, Hydrochloric, Oxalic:* Give an alkali (soap, soda, and whitewash usually at hand); lime-water; magnesia; provoke vomiting; avoid stomach-pump; give ice-cream and bland fluids; secure rest; relieve pain by opium; stimulate, if necessary; feed by enema.

*Hydrocyanic Acid and Potassium Cyanide:* Stomach-pump or emetic; stimulate; potassium permanganate; give dilute ammonia—water—by intravenous injection, if necessary; chlorine—water; cold affusions; give atropin, gr. 1/60, hypodermically.

*Carbolic Acid and Creosote :* Give Epsom Salts, dilute sulphuric acid; atropine, hypodermically; stomach-pump or emetics ; white of egg; amyl nitrite; stimulate; artificial heat.

*Alkalies—Ammonia, Soda, Potash, Lye :* Give vinegar, lemon-juice, or orange-juice, or other acid or fixed oil; give bland liquids; secure rest; relieve pain by opium; stimulate, if necessary.

*Arsenic—Paris green, Scheele's Green, Fowler's Solution:* Stomach-pump or emetics; give hydrated oxide of iron or dialyzed iron and magnesia; give dose of castor oil; secure rest; stimulate, if necessary.

*Acetate of Lead:* Stomach-pump or emetics; give Epsom salts or dilute sulphuric acid; milk, raw eggs, and water; morphine hypodermically for

pain; Potassium iodide to eliminate the drug.

*Mercury, Corrosive Sublimate, Antimony, Tartar Emetic:* Emetics; careful lavage; give some infusion containing tannic acid; give raw eggs and milk; bland liquids; give dose of castor oil; stimulate, if necessary.

*Copper Salts:* Give albumin (milk, raw eggs); yellow prussiate of potassium; stomach-pump or emetics; give bland fluids.

*Phosphorus:* Provoke vomiting by repeated five-grain doses of sulphate of copper; Potassium permanganate (1/3 - 1/5 per cent); give dose of magnesia, but no oil.

*Nitrate of Silver (lunar caustic):* Give strong salt and water; provoke vomiting; repeat both many times.

*Iodine:* Stomach-pump or emetics; give starch and water; give bland fluids.

*Opium — Morphine, Laudanum, Paregoric, etc.:* Stomach-pump; emetic; Potassium permanganate, by mouth; adrenalin; ammonia; hot strong coffee by the bowel; atropine, cocaine, or strychnine hypodermically; oxygen inhalations; artificial respiration; lingual traction.

*Chloral—Paraldehyde:* Stomach-pump or emetic; artificial heat; massage; stimulate ; strychnine; amyli nitrite; artificial respiration.

*Nux Vomica — Strychnine, Picrotoxin:* Stomach-pump or emetic; animal charcoal or tannic acid; bromide and chloral; amyli nitrite, chloroform by inhalation; artificial respiration.

*Aconite— Veratrum Viride :* Stomach-pump or emetic; stimulate, heat; atropine; artificial respiration.

*Hemlock, Toadstool, Tobacco, etc.:* Provoke vomiting and give a purge; tannic or gallic acid: stimulate well; keep up breathing.

*Belladonna or Atropine, Hyoscyamus or Hyoscyamine, Duboisia or Duboisine, Stramonium or Daturine:* Stomach-pump or emetic; stimulate; enema hot strong coffee; artificial heat; morphine; pilocarpine; physostigmine, artificial respiration.

*Alcohol*: Stomach-pump or emetic; give ammonia and water.

*Decayed Meat or Vegetables*: Provoke vomiting; wash out stomach; give a purgative; give an enema; give powdered charcoal and hydrogen dioxide.

*Poisonous Gases—Carbonic Acid or Oxide, Sulphuretted Hydrogen*: Fresh air; oxygen; artificial respiration; amyl nitrite or nitro-glycerin; stimulation.

To provoke vomiting, warm water may be used, with or without ground mustard (1/2 ounce to a pint of water), or ipecac (1 drachm of the powder or 1/2 ounce of the syrup), or a finger may be thrust down the throat. It is best to give large quantities (a pint at a time) of warm water whenever vomiting is to be excited. The stomach-pump or simple syphon-tube, if accessible, is better. Apomorphine (1/12 to 1/6 grain) subcutaneously is a reliable emetic.

*Bland liquids* are milk, raw eggs, some sort of oil, mucilage, barley-water, gruel, etc.

*Stimulants* are tea, coffee, whisky, wine, etc., or ammonia and water. Of this last a teaspoonful in a teacupful of water will be enough for a dose. In making tea or coffee one must not wait to do it as if for the table, but mix hot water and the leaves or grounds, squeeze them well, stir together, and give the whole—leaves, grounds, everything.

*Alkaline antidotes* which are most likely to be at hand are ammonia and water (a tablespoonful in two teacupfuls of water), soap and water, lime, whiting, soda, chalk, tooth-powder, plaster, magnesia, whitewash, and even wood-ashes.

*Acid antidotes* most commonly accessible are vinegar and lemon-juice.

In giving an antidote it is well to remember that it is not always necessary to wait for it to dissolve, but that it may be stirred up in any fluid at hand (except oil), and swallowed immediately.

*Antagonists* are drugs which physiologically oppose the poison, as atropine to opium, chloral to strychnine, pilocarpine to atropine.

## INDICATIONS FOR REMEDIES.

*Achillea.* In irritative conditions of the urinary apparatus, strangury and suppression of urine. The best results are obtained from the infusion. Of the specific tincture, use in from five to ten drop doses.

*Acids.* A deep red tongue.

*Acidum Benzoicum.* Very strong smelling urine.

*Acidum Carbohcicum.* As a topical antiseptic, one part to five or twenty of glycerine or linseed or olive oil.

*Acidum Hydrocyanicum.* An elongated and pointed tongue, reddened tip and edges; uneasy sensations in stomach, with painful retchings—5 drops of the commercial acid to water 4 ounces, in small and frequently repeated doses.

*Acidum Muriaticum.* A deep-red tongue, brown coat and sordes.

*Acidum Nitricum.* Violet color of tongue ; in many cases it seems like a transparent color over red—20 drops to water 4 ounces.

*Acidum Sulphurosum.* Tongue of natural color, full, dirty; tissues of throat look full and lifeless. The skin has a rusty, lifeless appearance.

*Aconite.* In fevers and inflammatory conditions with a small, frequent pulse, and increased temperature—and especially in quinsy, croup, irritant diarrhea and dysentery—5 - 10 drops to water 4 ounces.

*Adonis.* In mitral insufficiency, palpitation, irregular action of the heart, dropsy, and dyspnea, this agent will prove a good tonic, 10 - 20 drops to water 4 ounces.

*Aesculus.* A stimulant to the nervous system, and useful in difficult breathing of asthma when not of a paroxysmal character, also a good remedy in hemorrhoids—10 - 30 drops to water 4 ounces.

*Agrimony.* Atonic conditions of the urinary apparatus, and where the urine is thick and gelatinous. Improves the tone of all mucous

membranes—1 - 2 drams to water 4 ounces.

*Alcoholic Stimuli.* When there is prostration, the pulse being soft and feeble—small quantities frequently repeated.

*Aletris Farinosa.* Too frequent menstruation, with labor-like pain and sense of debility in pelvis; complains of pelvic articulation, or inability to support the body on the feet—10 drops to 1 dram in water 4 ounces.

*Alkalies.* A broad, pallid tongue.

*Aloes.* The patient evacuates the lower bowel with difficulty— 10 drops to water 4 ounces.

*Alumina* (aluminium oxide). Can not pass the urine without great straining, as at stool—a trituration, 1-100 to 1-10, dose one grain.

*Ammonii Bromidum.* Convulsive action of the muscles; convulsions when there is a return to consciousness; epileptiform disease—2 drams to 1 ounce in water 4 ounces.

*Ammonii Muriaticum.* Deep or dull redness of the surface, effaced by pressure slowly returns—1 dram to water 4 ounces, and as a bath.

*Ammonii Iodidum.* Dull pain in head with dizziness, and inability to command the voluntary muscles—1/2 ounce to water 4 ounces; a teaspoonful three times a day.

*Amygdalis Persica.* An elongated and pointed tongue, reddened tip and edges, gastric tenderness—an infusion, or of the tincture 20 drops to 2 drams in water 4 ounces.

*Antimonium Tartaricum.* Stridulous breathing, with difficult respiration, seemingly from want of muscular power—3d to 6th decimal trituration in doses of one-fourth grain.

*Apis* (tincture of the honey bee). Itching with burning of the surface, especially of the genitalia or urinary passages—10 drops to water 4 ounces.

*Apocynum Cannabinum.* Fullness of eyelids, swelling of the feet, edema



of any portion of the superficial cellular tissue, dropsy —2 - 20 drops to water 4 ounces.

*Aralia Hispida*. Dropsy of cavities—an infusion, or the tincture, 1/2 ounce to water 4 ounces.

*Argentum Nitricum*. Intense tormina and tenesmus, with discharge of pinkish mucus, streaked with bright blood—one-third to one-fourth grain in form of pill.

*Arnica*. Tensive pain in the back as if bruised or strained; muscular pain and soreness when the limbs are moved; feeble respiration—10 drops to water 4 ounces.

*Arsenicum* (Fowler's solution). Skin has lost its elasticity, epidermis dry; tendency to the formation of vesicles; tongue contracted and pointed ; pulse soft and easily compressed—1 - 10 drops in 4 ounces water. (Donovan's solution.) We employ this preparation in the treatment of secondary syphilis, if the tongue is small and its redness increased.

*Arum Triphyllum*. Intensely sore throat, bleeding, with marked fetor; sense of fullness and swelling of the throat and tongue —10 drops in 4 ounces water.

*Asclepias Tuberosa*. Pulse strong, vibratile; skin moist, pain acute and seemingly dependent on motion—10 drops to 1 dram in 4 ounces water.

*Aurum Muriaticum Natronatum* (chloride of gold and sodium). Indolent chancres and buboes, not sensitive; secondary and tertiary symptoms; in all cases the tongue is contracted and redder than usual—gr. 1/60 to 1/12, in pill or lozenge. In its action the properties of gold differ but little from those of mercury.

*Avena*. Sleeplessness with irritability, nervous prostration due to mental strain, headache, melancholia, and hysteria. A nerve tonic, stimulant, and anti-spasmodic—1 - 2 drams in 4 ounces water.

*Baptisia*. Face full, dusky, purplish-red, like one who has been in the cold for a long time; tongue has the same dusky, purplish color; headache dull, pulse oppressed—5 - 10 drops in 4 ounces water.

*Barosma*. A highly acid urine, with a constant desire to urinate without any apparent relief from micturition—2 - 4 drams in 4 ounces water.

*Baryta Carbonica*. Weight and pressure about the pubes; scanty menstruation; very sensitive to cold. (2d to 6th trituration in doses of gr. 1/4 to gr. 1.)

*Belladonna*. Dullness, hebetude, disposition to sleep, coma, eyes dull, pupils dilated—5 - 10 drops in 4 ounces water.

*Berberinæ Sulphas*. Profuse menorrhagia, with an active circulation—gr. 1 to grs. 2.

*Bismuth* (liquor). Tongue red, papillae prominent; uneasy sensations in stomach towards the close of digestion, extending downwards and terminating in diarrhea—gastro-intestinal irritation—20 drops to 1 dram.

*Boletus Laricis*. Chills confined to the back; chills alternated with flushes of heat; great weight and debility of the back— 10 drops in 4 ounces water.

*Bromine*. As an inhalation in croup—10 drops in 4 ounces water, heated.

*Bryonia*. Pain of a tensive cutting character, of serous membranes ; headache extending from forehead to occiput, right side; right cheek flushed; cough hacking, as from some irritating substance; rheumatic pain has the same tensive, cutting character.

*Cactus Grandiflorus*. Irregular movements of the heart; irregular pulse, usually increased in frequency; unpleasant sensations in precordia and fear of impending danger. The action of the heart is always impaired, never increased—10 drops to 1 dram in 4 ounces water.

*Calcarea Carbonica*. Enlargement of lymphatic glands; pallid inelastic skin; softness of tissues; diseases of the reproductive apparatus of women, with these symptoms—Homeopathic triturations.

*Calcium Hypophosphite*. Is especially indicated when there is a deposit of aplastic or cacoplastic material in connective tissue, slight

inflammatory symptoms resulting; tuberculosis; phthisis pulmonalis—grs. 2 to grs. 5 three times a day.

*Calendula*. In enfeebled conditions of the capillary blood vessels. An excellent application to ulcers and wounds—1 dram in 4 ounces water.

*Calx* (lime). A remedy for boils, and inflammations of cellular tissue having something of this character. In infantile dyspepsia, when the discharges from the bowels are green, and the child throws up curdled milk—lime water.

*Calx Chlorinata*. The tongue is pallid, breath fetid; inflammation of cellular tissue, with tendency to sloughing—1 drachm to water 16 ounces, filtered; dose 10 drops 1/2 dram, largely diluted.

*Camphor*. Insomnia and restlessness, the pulse being soft, tongue moist; diarrhea—gr. 1/8 to gr. 1.

*Cannabis Indica*. Painful micturition with tenesmus; insomnia with unpleasant dreams during momentary sleep—10 - 20 drops in 4 ounces water.

*Capsicum*. In full doses (1/2 to 1 dram) in delirium tremens, with feeble pulse, cold extremities, and pallid face.

*Carbo-Veg*. Pallid skin, feeble circulation, with hemorrhage; pale tongue, with slight coat, lifting in patches; tumid, doughy abdomen. It is the remedy for asthenic hemorrhage—2d dec. trituration, dose gr. 1.

*Caulophylum*. Uterine pains and tenderness in persons of full but lax habit; rheumatic pains in asthenic p-lethora. In labor with deficient pains when the tissues give a sensation of fullness as from congestion—20 drops in 4 ounces water.

*Ceanothus*. Enlarged spleen, sallow skin, and expressionless face. Profuse secretion of mucus with absence of inflammation—20 drops to 2 drams in 4 ounces water.

*Chamomilla*. Green watery diarrhea; head sweats; very sensitive—10 drops in 4 ounces water.

*Chimaphila*. In chronic diseases of genito-urinary mucous membranes, with scanty urine, muco-purulent sediment, vesical tenesmus, frequent micturition, and smarting pains—1 - 3 drams in 4 ounces water.

*Chionanthus*. Pain in epigastrium and right hypochondrium, simulating colic, sometimes extending to abdomen; intense pain in region of the liver, extending to umbilicus, with great prostration and sometimes nausea; jaundice—2 - 10 drops as a dose.

*Chelidonium*. Scybalous faeces; pain in right shoulder and in dorsal spine; greenish-yellow tinge of skin.

*Chloral*. May be used to produce sleep, if the pulse is soft, circulation and temperature equal, temperature not above 100°. In small dose (one grain) it may be used in irritable dyspepsia, associated with hydrastis—dose, grs. 5 to grs. 20

*Chloroform*. In doses of 1 - 10 drops it may be given in severe and protracted chills; in the same dose it is regarded as a solvent for biliary calculi. Used as an anesthetic. Notice that respiration is regular and free.

*Cimicifuga*. See *Macrotys*.

*Cinchona or Cinchonidia Sulphas*. Has nearly the same value as sulphate of quinia, but not so apt to produce head symptoms. May be used as an antiperiodic if the pulse is soft, skin soft, tongue moist, and nervous system free from irritation. (The antiperiodic quantity for an adult is grs. 10 to grs. 15.)

*Cinnamon* (a tincture of the oil). This is the most certain remedy I know in post-partum hemorrhage—20 drops to 1 dram, repeated as often as necessary.

*Citrus Limonum*. Lemon juice is a remedy for rheumatic pain, when the tongue and mucous membranes are very red, the urine being alkaline.

*Coca*. Easily tired; feeling of weariness; difficult and labored respiration; temperature not increased—1 - 20 drops.

*Collinsonia*. A sensation as if some foreign body was lodged in the

rectum, with contraction of the sphincter; contracted and painful perineum—10 drops to 4 ounces water. In chronic laryngeal irritation or inflammation, with sense of tickling in larynx, and cough arising from use of the voice—1 ounce to syrup 3 ounces.

*Colocynth.* Cutting pain in the abdomen, with diarrhea and dysentery, tenesmus increasing the pain—5 - 10 drops in 4 ounces water.

*Conium.* In rheumatic or neuralgic pain of feeble old persons; or in local disease with cacoplastic deposit—10 drops to 1 dram in 4 ounces water.

*Convallaria.* Painful cardiac affections, with difficult breathing, excited heart's action, palpitation and dropsy—20 drops to 2 drams in 4 ounces water.

*Cornus.* General exhaustion, relaxed tissues, indigestion with stupor, acid eructations with headache and in malarial fevers with sodden tissues—1 - 2 drams in 4 ounces water.

*Corydalis.* Catarrhal gastritis with coated tongue, foul breath, loss of appetite, and in chronic ulcerative conditions, and in secondary syphilis—1 - 2 drams in 4 ounces water.

*Crataegus.* Cardiac disturbances, either functional or structural, especially the latter, are benefited by this agent. Cardiac neuralgia, palpitation, vertigo, irregular pulse, etc.—1/2 to 1 dram in 4 ounces water.

*Cubeba.* A remedy in the second stage of gonorrhoea, when the acute irritation has passed by; in enfeebled conditions of the large intestine and rectum—grs. 2 to grs. 10.

*Cuprum.* A blood-maker after severe hemorrhage or exhaustive discharges, the skin being pale and transparent: In chlorosis and other diseases, when the skin has a dirty greenish tinge. The tongue is usually clean and the breath sweet—5 - 10 drops in 4 ounces water.

*Cypripedium.* In nervousness and sleeplessness from atony—2 - 20 drops in 4 ounces water.

*Digitalis.* The stroke of the pulse is feeble; the current of blood is easily

stopped by pressure; the sounds of the heart faint— 10 drops in 4 ounces water.

*Dioscorea.* Abdominal pain of the nature of colic, with tenderness on pressure—10 drops to 1 dram in 4 ounces water.

*Drosera.* The cough is expulsive as from irritation that can not be controlled; the cough of measles; whooping-cough—10 drops to 1 dram in 4 ounces water.

*Echinacea.* A powerful antiseptic, locally and internally, in the bite of the rattlesnake, diphtheria, typhoid conditions, blood poisoning, and an alterative of great value in strumous diathesis, syphilis, old sores and wounds, 5 drops to 1 dram.

*Elaterium.* (Elaterium 1/2 dram, alcohol 16 ounces.) It has a specific influence upon chronic inflammation of the bladder. Passages of mucus or muco-pus with tenesmus; deep soreness in the bladder with dragging in the perineum—1/2 to 1 dram at first to catharsis, then in doses of 1 - 5 drops.

*Epigæa.* A tonic or astringent diuretic, specifically adapted, to chronic affections of the urinary apparatus, attended by irritation, an increased secretion of mucus, or a purulent discharge—30 drops to 1 dram in 4 ounces water.

*Epilobium.* Diarrhea with colicky pains; feculent discharges with tenesmus; diarrhea with contracted abdomen; chronic diarrhea with harsh, dirty, constricted skin—an infusion, or of the tincture 10 - 20 drops.

*Equisetum.* A mild diuretic, invaluable in gravel and irritation of the urinary organs, with dysuria and pain after urinating; also in suppression of urine and dropsical affections—1/2 to 1 dram in 4 ounces water.

*Ergot.* As a stimulant to the capillary circulation, and to the nerve centers—5 drops to 1 dram in 4 ounces water.

*Erigeron* (Oil of). A remedy in active hemorrhage, with strong and not very frequent pulse— 1 - 5 drops.

*Eriodyction Glutinosum* (Yerba Santa). Cough with abundant and easy expectoration—5 - 20 drops with syrup.

*Eryngium*. Uneasiness in the bladder, .frequent desire to urinate and painful micturition; pain in the bladder extending to the loins—10 drops to 1 dram in 4 ounces water.

*Ether Sulphuric*. Headache, with pallid, expressionless face, feeble pulse, and cool extremities—5 - 10 drops on a lump of sugar.

*Eucalyptus*. Sensations of coldness and weight in bowels; cold extremities; cold perspiration; perspiration during chill—in small dose, 10 drops in 4 ounces water; or in ague the larger dose of 10 drops to 1 dram.

*Eupatorium* (Perfoliatum). Full pulse, full skin, tendency to perspiration even during fever; deep-seated pains in muscles and bones—5 - 20 drops to 1 dram in 4 ounces water.

*Eupatorium* (Purpureum). Urine scanty, milky ; weight in loins; skin hot, dry, and constricted—10 drops to 1 dram in 4 ounces water.

*Euphorbia* (Hypericifolia). Diarrhea, the discharges being greenish and irritant; frequent desire to go to stool, which relieves sometimes without any motion—10 drops in 4 ounces water.

*Euphorbia* (Corollata). The elongated and pointed tongue, prominent papillae; uneasy sensations in the stomach and bowels as of a desire to go to stool—10 drops in 4 ounces water.

*Ferrum* (tine. of the acetate). Pallid transparent skin; blueness of veins; dull, heavy pain in back of head—1 - 5 drops in a wine-glass of water three times a day.

*Ferrum* (tincture of the chloride). Erysipelatous disease, the part affected being deep red; tongue deep red; mucous membranes and throat somewhat full, and showing some redness— 5 - 10 drops at a dose.

*Ferrum* (syrup of the iodide). Enlargement of the lymphatic glands,

without deposit in connective tissue; pallid though full tissues; difficulty in retaining urine; sometimes stillicidium—5 drops to 1/2 dram.

*Gadus Morrhua* (cod oil). Deposit of cacoplastic or aplastic material in cellular tissue, with tendency to breaking down, with subacute inflammatory action.

*Galium*. Nodulated growth or deposits in skin or mucous membranes—10 drops in 4 ounces water.

*Gallic Acid*. Hemorrhage, with feeble pulse, cold extremities, and inelastic skin—dose, grs. 5.

*Gaultheria*. Irritation of the base of bladder and prostate, leading to sexual excitement; increased sexual excitement, evidently from wrong of the reproductive organs, and not the mind—5 - 10 drops.

*Gelsemium*. Flushed face, bright eyes, contracted pupils, increased heat of head, restlessness and indisposition to sleep, pain in the entire head; urine is passed with difficulty and in small quantity, with sense of irritation in the urinary organs.

*Gentiana*. Sense of depression referred to epigastric region, and associated with sense of physical and mental weariness—1 - 5 drops.

*Geranium*. Diarrhea with constant desire to go to stool; chronic diarrhea with mucous discharges—1 - 10 drops.

*Ginseng*. Nervous dyspepsia; sensation of dullness in head, with inability to control the voluntary muscles—10 drops to 1 dram in 4 ounces water.

*Gossypium*. In large doses will bring on and stimulate uterine contraction. As an emmenagogue when there is backache, with sense of dragging in the pelvis; sense of fullness and weight in the bladder, with difficult micturition—10 drops to 1 dram in 4 ounces water.

*Graphites* (1st homeopathic dilution). Tardy menstruation, with disturbance of the nervous system; skin pale, or pale with dirty tinge; slow, difficult respiration, almost stopping during sleep.



*Grindelia*. Asthma; labored respiration with dusky flushing of face (person plethoric) ; old atonic ulcers; tissues full—1 dram to 2 ounces syrup; as a local application, 1 ounce in 16 ounces water.

*Grindelia Squarrosa*. Pain in the hepatic and splenic regions, especially effective in enlarged spleen; puffiness of the tissues, and pallidity of skin and mucous membranes—1 - 2 drams in 4 ounces water.

*Guaiacum*. Acute tonsillitis, and in amenorrhea and dysmenorrhea when due to atony of the pelvic viscera—20 drops to 1 dram in 4 ounces water.

*Guarana*. Headache, with pallid face, feeble pulse, increased by exertion—10 drops to 1/2 dram as a dose.

*Hamamelis*. Fullness and relaxation of tissue; fullness of veins, inclined to dilatation; laxness of muscular fiber; increased secretion of mucus; sensations of fullness, weight and dragging—distilled extract: dose, 1 - 30 drops; and as a local application, one part to three or four of water.

*Hedeoma* (Pennyroyal). To restore the lochial discharge—use as an infusion.

*Helleborus* (Niger). Dullness of intellect, heaviness of head, coldness of forehead, with clammy sweat; jelly-like mucous discharge from the bowels—1 - 5 drops in 4 ounces water.

*Helonias*. Mental depression and irritability associated with chronic disease of the reproductive organs of women—5 drops to 1/2 dram in 4 ounces water.

*Hydrangea*. To relieve irritation, and improve the nutrition of the urinary mucous membranes. Influences the respiratory and digestive mucous surfaces in less degree—30 drops to 1 dram in 4 ounces water.

*Hydrastis*. Irritation with enfeebled circulation, whether used as an internal remedy or as a local application. It is not a remedy for acute inflammation with arrest of secretion. It is especially applicable in diseases of mucous membranes, should not be used when connective tissue is principally involved—sulphate or phosphate of hydrastia, gr. 1 to water 4 ounces.

*Hyoscyamus*. “Delirium with hallucinations”—5 - 10 drops in 4 ounces water.

*Hypophosphites* (Compound syrup). When there is an enfeebled circulation, and feeble nutrition of nerve-centers. The surface is usually pallid, waxen, and the extremities inclined to be cold.

*Hypericum Perforatum*. It is claimed that it exerts a marked influence in relieving irritation in injuries of the spine, and in punctured or lacerated wounds of the extremities, preventing tetanus. Relieves the excruciating pain of such injuries— 5 drops in 4 ounces water.

*Iberis Amara*. Cardiac hypertrophy; dropsy from cardiac disease; asthma associated with cardiac disease; pulse “purring,” full and tremulous.

*Ignatia*. Morning chills; feels better out of doors; deep-seated and dull pain in epigastrium, feeling as if the stomach was dragged backwards; weak, empty feeling in stomach; pain shooting from right hypochondrium to shoulder—6 drops in 4 ounces water.

*Ipecacuanha*. Irritation of mucous membranes, with increased secretion—diarrhea, dysentery; inflammation of parenchyma of lung—5 - 15 drops in 4 ounces water.

*Iris*. Fullness of throat, enlargement of thyroid gland, fullness of throat with pulsation of arteries—10 drops, water 4 ounces, and as a local application.

*Jaborandi*. Powerfully increases the secretory action of the sudoriparous and salivary glands. Is useful where there is a high temperature and a dry skin—20 drops to 1 dram in 4 ounces water.

*Juglans Cinerea*. In large doses it is an excellent laxative; in small doses it relieves irritation of the stomach and intestines, and promotes digestion. It may be thought of as a remedy in chronic eczema—5 drops in 4 ounces water.

*Kalmia*. In syphilis with excited circulation—5 - 10 drops in 4 ounces water.

*Lactic Acid.* Deep redness of the tongue, deep redness of skin, pulse oppressed. (Whey is a most excellent form.)

*Lavandula* (Compound spirit). The child's stimulant; combined with lobelia in asthenic bronchitis, and in atony of bowels with pain.

*Leptandra.* Dull heavy pain in right hypochondrium, fullness of abdomen; tongue coated markedly white, but not a fur; is thirsty, but can not drink water; restless and can not sleep— leptandrin gr. 1/2 to gr. 1; tincture, 10 drops in 4 ounces water.

*Lithium* (Benzoate of). Uneasiness in the loins, extending to the bladder; passage of mucus with phosphates from bladder; fullness and tension in perineum, and desire to micturate frequently, with difficulty in passing urine—gr. 1 in a glass of water three times daily.

*Lobelia.* Sense of fullness and oppression in precordial region; oppression of chest and difficult respiration; sharp lancinating pain starting in heart and radiating to left shoulder and arm; mucus rattling in throat; full, oppressed pulse, weak pulse— stimulant doses, 10 - 20 drops at a single dose in angina pectoris; 10 drops in 4 ounces water in ordinary disease; combined with lavender for asthenic bronchitis of the child.

*Lycopus.* Chronic cough with frequent pulse and high range of temperature; hemorrhage with frequent pulse; albuminuria with frequent pulse; B right's disease—10 - 20 drops in 4 ounces water.

*Macrotys.* Muscular pains; uterine pain with tenderness; false pains, irregular pains; rheumatism of the uterus; dysmenor-rhea. An anti-rheumatic when the pulse is open, the pain paroxysmal, the skin not dry and constricted—10 drops to 1 dram in 4 ounces water.

*Mangifera.* Tonic astringent to enfeebled mucous tissues with profuse discharges. In catarrh; leucorrhoea; gleet; diarrhea; dysentery; and all passive hemorrhages—1/2 to 1 dram in 4 ounces water.

*Menispermum.* Skin brown, tongue coated at base, tip red, irregular appetite, constipation—1 dram in 4 ounces water.

*Mentha Viridis.* Scanty secretion of urine, frequent desire to pass

water—10 drops to 1 dram in 4 ounces water.

*Mitchella*. Uneasy sensations in the pelvis, with dragging, tenderness on pressure, frequent desire to pass urine, and difficulty of evacuation—1 dram in 4 ounces water.

*Myrica*. Increased secretion from mucous membranes, they being full and relaxed; full, oppressed pulse: imperfect circulation to surface and extremities.

*Morphia*. The pulse is small and soft, waves short and square, distance between waves long—this is the specific indication. It is permissible to relieve pain or produce sleep, when the pulse is soft, tongue moist

*Nepeta Cataria*. Pain in abdomen, flexing- of the thighs upon the abdomen, writhing of the patient, persistenc crying—1 dram in 4 ounces water.

*Nicotiana Tabacum* (tincture of the fresh plant). Pneumonia or bronchitis, with pallid skin, coldness of exi. remities, imperfect circulation of blood—10 drops in 4 ounces water.

*Nitric Acid*. Violet color of tongue, transparent, the redness of the tongue showing below—20 drops in water and syrup 2 ounces.

*Nux Vomica*. Sallow, expressionless tongue with nausea and vomiting; sallow, expressionless mouth, with tinge of yellow; abdominal pain, paroxysmal, pointing at umbilicus; tumid abdomen with paroxysmal pain; paroxysmal pain in right hypochondrium, shooting to right scapula; paroxysmal pain in uterus, extending to umbilicus; in diarrhea the discharges are large, and attended with colicky pain.

*Opium*. The pulse is small, with short waves, gives a sensation of fullness. It is permissible to relieve pain and induce sleep, when the pulse is soft and open, the skin soft and inclined to moisture, tongue moist.

*Passiflora*. Irritation of brain and nervous system; sleepless-ness ; in fact, wherever a harmless and certain soporific is demanded. In convulsions of childhood; nervous headache and neuralgia; infantile nervous irritation, tetanus and in epilepsy —20 drops to 4 drams in 4

ounces water.

*Penthorum Sedoides*. Catarrhal inflammations; nasal catarrh, with fullness of mucous membranes and abundant secretion; spongy gums; fullness of fauces and mucous membrane of pharynx; catarrhal disease of stomach, catarrhal diarrhea— 10 drops to 1 dram in 4 ounces water.

*Phosphorus* (tincture of). Vesical and prostatic irritation, with mucoid discharges; fullness with dragging in perineum; discharges of mucus from rectum, with sense of weariness from lower extremities. In pneumonia with sense of oppression, and difficulty of expectoration, livid face—5 - 10 drops in 4 ounces water.

*Phosphorus* (Phosphorated oil. Phosphorus pills; dose, gr. 1/100 to 1/50). As a nerve stimulant, especially when there is feeble reproductive power. Indications—a soft pulse, cold extremities, inelastic skin, pendulous scrotum, fullness of lower abdomen in women, without sharp pain.

*Phytolacca*. Soreness of mouth, soreness of throat, with tendency to death of epithelium; diphtheritic deposits, fullness about throat externally; enlarged cervical epithelium; caking of breasts, inflammation of breasts, sore nipples; disease of the skin or of the blood with death of and imperfect reproduction of the epithelium—10 drops to 1 dram in 4 ounces water.

*Pix Liquida*. (Glycerole of Tar.) The remedy for pruritus ani, and for some diseases of the skin with pruritus. For cough with profuse bronchial secretion, add one part of glycerole of tar to seven parts of glycerine, two parts of water.

*Plantago*. Diseases of the gastro-intestinal mucous surfaces, when there are pinching or colicky pains; inflammatory affections of the skin, when there is pricking, itching, or burning pain; toothache and earache—30 drops to 1 dram in 4 ounces water.

*Podophyllum, Podophyllin*. Fullness of veins, fullness of face, fullness of abdomen, fullness of tongue with pasty secretion.

*Polygonum*. Want of menstrual flow, chilly sensations in back, tensive pain, pain of legs, skin harsh and inactive—10 drops to 2 drams in 4

ounces water.

*Polytrichum.* A hydragogue diuretic; in some cases incredibly increasing the flow of urine. It is most valuable in uric acid diathesis, lithemia, and in suppression of urine from cold— 5 drops to 1 dram.

*Potassæ Carbonas.* Pallid, expressionless tongue, fullness of muscles, greater loss of strength than can be accounted for by conditions of disease—add to water so as to make a pleasant drink, and continue until tongue assumes its normal redness.

*Potassæ Chloras.* The antiseptic of the puerperal state; when portions of the placenta, blood-clots, etc., are retained and undergoing decomposition; fetid lochise, fetid breath, fetor as from decomposing animal matter—from 5 grains to 2 drachms may be given in the twenty-four hours, and used as a local application.

*Potassæ Nitras.* Scanty urine, with difficult respiration; difficult deglutition as from paralysis of muscles of the throat; enlargement of tonsils. Burned to relieve asthma—5 drops to 2 drams in 4 ounces of water.

*Potassæ Permanganas.* As a local application only, in phlegmonous erysipelas, in inflammation where tissues have lost vitality, and are inclined to slough; in the early stage of felons and boils, to arrest the progress of inflammatory action—ordinary use 1 dram to water 16 ounces; for the last use, grs. 10, water 1 ounce.

*Potassæ Sulphas.* The color of the skin is dirty, tissues full and sodden, skin scaly; wounds heal slowly, inflame and suppurate —grs. 5 to grs. 10 three times a day in a glass of water.

*Potassii Ferrocyamdnm.* Hysteria or hypochondriasis, with slow, imperfect waste and nutrition—1 dram to 1/2 ounce in 4 ounces of water.

*Potassii Bromidum.* For sleeplessness and restlessness, when there is a vigorous circulation, but without fever; epilepsy or convulsions with irritation of sexual organs; strong excitement of sexual organs.

*Potassii Iodidum.* Pale, leaden-colored tongue, usually full; contra-

indicated by contracted red tongue. Antisyphilitic with this indication—grs. 5 to grs. 10.

*Propylamin.* In rheumatism when febrile action has been relieved —5 - 10 drops, mint water 4 ounces.

*Pulsatilla.* Patient is nervous, despondent, restless, sleepless, pulse soft, easily compressed; eyes dull, dark line under them; reproductive excitement; fear of impending danger; menses arrested, tardy, scanty—10 - 30 drops in 4 ounces of water.

*Quinia Sulphas.* Periodicity—the pulse being soft, skin soft, tongue moist and cleaning, nervous system free from irritation—antiperiodic quantity grs. 10 to grs. 20. As a stimulant, in small doses, when the above conditions of body are present.

*Rheum.* Irritation of stomach, nausea, vomiting; tongue elongated, reddened at tip and edges; diarrhea, with tenderness on pressure; sour smell of child—10 - 20 drops in 4 ounces of water.

*Rhus Tox.* Small, sharp pulse; pain in forehead, especially in left orbit; burning pain; tongue shows red spots on upper surface of tip—5 drops in 4 ounces of water.

*Rhus Aromatica.* Diabetes, when the urine is pale colored, of high specific gravity, with sugar in it, and the patient debilitated; diarrhea, with profuse and painful discharges; hemorrhage from the mucous surfaces of the kidneys, bladder, gastrointestinal canal, uterus, lungs, and bronchi; incipient albuminuria; hypertrophy of the prostate, with great pain during micturition; enuresis of children and aged persons; chills, thirst, and constipation, with sugar in the urine; chronic diabetes, when no sugar is found in the urine and a large quantity of urine is passed, and there is great thirst; chronic catarrh of the bladder and chronic cystitis; chronic diarrhea and dysentery—30 drops to 3 drams in 4 ounces of water.

*Rumex Crispus.* Cough, with sense of irritation in trachea and larynx—5 drops to 1/2 dram in 2 ounces syrup.

*Salicin.* Periodicity, the patient complaining of severe pain, rheumatic in character, or simulating rheumatism—antiperiodic quantity grs. 15 to

grs. 30, in divided doses. As an anti-rheumatic, the febrile action being controlled by the sedative.

*Salvia*. Profuse sweating, continued inaction of the skin, feet sweat and get cold, night sweats—5 drops to 1 dram in 4 ounces of water.

*Salicylic Acid*. Anti-rheumatic, and the indication, rheumatic pain without much febrile reaction; sub-acute rheumatism. The tongue is slightly leaden colored, and shows spots when the fur is lifted—as an anti-rheumatic, grs.2, in pill, every three hours until grs. 20 are taken. An admirable local application in chronic catarrhal disease of mucous membrane. Salicylic Acid, Borax, 1 dram each, water 16 ounces.

*Sambucus Canadensis*. In disease of the skin, when the tissues seem full; epidermis separates and there is abundant serous discharge which forms crusts; indolent ulcers; tissues full, flabby, as if containing water—10 - 20 drops in 4 ounces of water.

*Sanguinaria* (Nitrate of). Tickling or irritation of throat with cough; sense of irritation in nose; uneasiness at supra-sternal notch; sense of uneasiness and burning in stomach, with nervousness—grs. 1 to grs. 2, syrup and water 4 ounces.

*Santonin*. Intestinal worms, especially the long round worm; white line around the mouth and frequent itching about the nose, which are marked symptoms of intestinal worms; retention of urine, especially in the advanced stages of acute diseases of children; irritation, pain, and scalding sensations during and after micturition; enuresis, dysuria and chronic cystitis; restlessness at night, gritting of the teeth, and night terrors. Of the first trituration one to three grains three or four times per day.

*Saw Palmetto*. Has a special action on the glands of the reproductive system, as mammae, ovaries, prostate, testes, etc., tending to increase their functional activity; best effect produced upon enlarged prostate. Specially useful in atrophy of testes or uterus, and in all prostatic troubles—20 drops to 2 drams in 4 ounces water.

*Scutellaria*. Hysteria with inability to control the voluntary muscles; nervousness manifesting itself in muscular action—5 drops to 1 dram in 4 ounces water. Sometimes quite large doses will be required.



*Secale, Ergot.* Dullness of intellect, disposition to sleep, dizziness ; tissues full, inelastic; pulse oppressed; fullness of abdomen ; hemorrhage with above conditions—1 drop to 1/2 dram.

*Senecio.* Enlargement of uterus with uterine or cervical leucor-rhea; difficulty in urination—5 drops to 1 dram in 4 ounces water.

*Sodæ Nitras.* Violet color of tongue, transparent, the tongue being somewhat pallid below; tongue full, swollen, covered with a white or yellowish mucus—10 drops to 2 drams in 4 ounces water.

*Sodæ Phosphas.* As a restorative when there is pallidity of the tongue and mucous membrane, and constipation. It is especially valuable for children—grs. 1 to grs. 20, three times a day.

*Sodæ Sulphas.* As an antidote to lead—1/2 ounce to water 4 ounces. To increase waste, when the skin is full, inelastic with brownish-sallow discoloration—grs. 2 to grs. 15 in a glass of water three times a day. It is a remedy in dysentery when there is the same appearance of skin.

*Sodæ Sulphis.* The tongue is broad, pallid, and has a dirty coat—grs. 2 to grs. 20.

*Spongia Tosta* (in homeopathic dilution). Hoarse croupal cough, wheezing inspiration, soreness and burning in air passages— 10 drops in 4 ounces water.

*Staphisagria.* To allay irritation about the prostate gland, vesic-ulse and testes, and to check prostatorrhœa and spermatorrhœa; a remedy for gonorrhœa and gleet. A nervous stimulant, useful where there are gloomy forebodings and violent outbursts of passion—1 dram to water 4 ounces.

*Sticta.* Cough, with pain in shoulders extending to the occiput; rheumatic pains, with soreness of shoulders, cervical region, and occiput—10 drops to 1 dram in 4 ounces water.

*Stillingia.* Irritation of superior pharynx, and just behind the fauces, causing cough; hoarse croupal cough, paroxysmal, as if from great laryngeal irritation; skin disease, showing marked irritation, with

ichorous discharge—for croup, the *Stillingia* liniment as an external application; for chronic cough, the same, half to one drop on a lump-of sugar; other uses, the tincture, 10 drops to 2 drams in 4 ounces water.

*Stramonium*. Delirious; can not rest in any position; continuously talking; seems to be fearful—5 -10 drops in 4 ounces water.

*Strophanthus*. A heart tonic rather than a heart stimulant, and is indicated in almost any irregularity of the heart's action. Especially valuable in precordial pain, palpitation, dyspnea, and valvular diseases with regurgitation. From a decided diuretic action it is a very efficient remedy in edema, anasarca, and Bright's disease—20 drops to 1 dram in 4 ounces water.

*Strychnia*. As an antiperiodic when the patient has difficult respiration, tardy and feeble urination, suffers from nightmare— gr. 1/60 to 1/20. In cholera or choleraic diarrhea, with the same symptoms and great muscular debility.

*Sulphur*. The skin is dirty, sallow, brownish, and the mucous membrane has a dirty hue.

*Sulphurous Acid*. The mucous tissues are of normal redness, but full and feeble; the tongue is coated with a moist, glutinous fur, having a tinge of brown—1/2 dram to water 4 ounces; as a local application it is best used with a spray apparatus.

*Thuja Occidentalis*. Syphilitic or other diseases of bad blood, with warty excrescences, or ulceration, showing prominence of papillae—10 drops in 4 ounces water.

*Trifolium Pratense*. An infusion of red-clover, has a specific influence in spasmodic cough, whooping-cough, and the cough of measles.

*Triticum*. This agent gives better results when given as an infusion. Catarrhal and purulent cystitis; irritation of the urinary apparatus; aching in the back which accompanies lithemia; dysuria and tenesmus; acute and chronic prostatitis; strangury and hematuria; lack of free secretion from the kidneys; excessive irritability of the bladder from any cause.

*Urtica Dioica.* Chronic diarrhea or dysentery with evacuations of mucus; chronic inflammation of bladder with abundant mucous discharge—10 drops to 1 dram in 4 ounces water.

*Uvedalia.* Enlargement of the spleen, ague cake; hypertrophy, with sensations of weight and dragging, and when felt seems sodden, wants elasticity; the skin is full, inelastic, and sallow —internally, 1 - 20 drops; as a local application the uve-dalia ointment, rubbed in with heat.

*Valerian.* A cerebro-spinal stimulant, especially valuable as a remedy in chorea when stimulation is desirable—2 drops to 1/2 dram.

*Veratrum Viride.* The pulse is frequent and full, tissues full, not shrunken; surface flushed with blood. In erysipelas the part presents somewhat the appearance of an ordinary inflammation—10 drops to 1 dram in 4 ounces water.

*Viburnum Opulus.* Cramp-like pains, pain recurring at intervals; to prevent abortion or miscarriage; in dysmenorrhea, when the pains are expulsive; during labor if the pain assumes the form of spasmodic contraction, the muscular tissues of the perineum being also involved—10 drops to 1/2 dram in 4 ounces water.

*Viburnum Prunifolium.* This has been regarded as especially the remedy to arrest abortion or miscarriage, and it may be used for the same indications as the other species—10 - 20 drops in 4 ounces water.

*Yerba Santa.* A stimulant to the mucous membrane in affections of the respiratory organs, in chronic catarrhal gastritis, and in catarrh of the bladder—30 drops to 1 dram in 4 ounces water,

