

# Herald of Health

Vol. 4

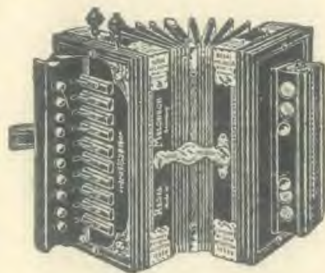
Lucknow, U. P., October, 1913

No. 10



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Trintonia Racing at Cowes





# HERALD OF HEALTH

The Indian Health Magazine.

V. L. Mann, M. D., Editor

S. A. Wellman, Asso. Editor.

Vol. 4

Lucknow, U. P., October, 1913.

No. 10

## Chronic Malaria

CHRONIC Malaria is the result of repeated acute attacks, or imperfect treatment of the acute attack, which allows the disease to break out later, and having never been cured, it assumes a chronic form. The average resident in India gets chronic malaria in one of the ways we have mentioned. Living in a generally malarious country, the trouble begins in childhood. The patient has an attack, but no efficient treatment is instituted. Like many other diseases, malaria runs its course, seems to die out, and yet all the while is lying dormant and has never been entirely eradicated. Then when at some future time the vitality of the system becomes lowered, the dormant malarial organism, again finding suitable soil in which to begin to grow, begins to multiply with resulting disturbances to the sufferer.

At such a time the sufferer is liable to become reinfected from mosquitoes that are laden with the malaria organisms brought from some other malarial sufferer. These processes, beginning in childhood, and continuing for a number of years, weed out the weakest at various ages, dependent upon the vital resistance of the patient. Those who survive the process of weeding out develop an immunity or protection from the disease. In other words, the constitution of the patient has been strong enough to kill disease, while in those that succumbed the disease has put up the best fight. It is the survival of the fittest.

If during the fight the patient goes to a physician, he presents a medical conundrum. His symptoms are not those described in the text books. For this there are two reasons. One is that the patient has become infected with perhaps all of the various forms of malaria; while the other is that the process has been going on for so long that all the organs of the body have become crippled so that the patient is suffering with a great many secondary symptoms, due primarily to malaria. As a general thing they lack the common history of chills, fever and sweats, commonly seen every second, third, or fourth day. They may have some fever, or the temperature may be sub normal. Indigestion, with coated tongue, bad taste in the mouth, headache, loss of appetite, distress in the stomach, and constipation, is a very common complaint with these patients. They have dizziness, palpitation of the heart, shortness of breath, swelling of the feet and ankles, cold hands and feet, and blueness of the fingernails and mucous membranes.

These patients upon physical examination present a dirty yellow or sallow appearance. The heart has lost muscular strength in its contraction, the pulse is weak, irregular, and frequent, murmurs are heard at the base of the heart, which may be increased in size, due to a relaxation or hypertrophy of the cardiac tissue. The liver and the spleen are found to be



enlarged, the latter especially sometimes reaching an enormous size and almost filling the abdominal cavity. The liver and spleen may take up so much room that the diaphragm (the chief muscle of respiration) cannot ascend and descend, thus making the patient short of breath.

The lungs also present characteristics of a sluggish circulation. Upon examining the blood, an exaggerated anemia is found. The hemoglobin is decreased rather than the red corpuscles, making the blood show a secondary anemia. The Leucocytes or white blood cells are also diminished in number. There is a deposition of pigment in the various organs due to disintegration of the red blood cells by the malarial organism.

The question of most importance is, What can we do for these patients? What plans of treatment are we to adopt? Quinine or some other antiperiodic medicine has been in vogue for the treatment of malaria for many years with good results. Although this class of medicines is indispensable in this malady, there is no drug that is more abused in the treatment of chronic malaria than quinine. If these patients have not already been filled with antiperiodic medicines, then a preliminary course of quinine or arsenic by mouth, or often better, hypodermically, will do much to kill the parasites infesting the various parts of the body. This medication should not be kept up indefinitely, but only for a week or two. If continued longer than this, the symptoms with which the patient is suffering will be aggravated. The symptoms first manifest are due to poisons eliminated by the malarial parasite, therefore the introduction of another poison indefinitely is going to do more harm than good.

After the preliminary course of quinine, arsenic, or other antiperiodic, attention must be turned to the digestive and circulatory systems of the patient. He must

be built up. A demand must be created for food; the digestive organs must have their capacity for the digestion of food increased, and the circulation put in better shape to carry the digested food to the different parts of the body.

This work of building should be based upon hygienic principles. The fewer drugs used the better. Some preparation of iron, preferably reduced iron in grain doses, three times a day after meals, is about all the medication that is needed. In the multiplicity of drugs there is confusion.

In building up the system and restoring vigour, we have a more efficient agency in Rational or Physical Therapeutics than in drugs. Eliminative measures, as the Electric Light Bath, Vapour Bath, Hot Blanket Pack, or sweating Sheet Pack, or Tonic measures, as the Cold Mitten Friction, Cold Towel Rub, Wet Sheet Rub, half Bath or Douche, are excellent agents in toning up the system, these to be given according to the strength of the patient. Fomentations to the liver, stomach and Spleen, and the wearing of a moist abdominal bandage will increase the appetite and improve the digestion. Massage will equalize the circulation, and strengthen the heart, thus overcoming the cold hands and feet, the swollen ankles and the blue lips and finger nails. The diet should be nourishing and easily digested. The bowels should be kept open.

After working on the lines of rational treatment as we have just outlined, continuing for four weeks or more, if there are still evidences of malaria in the system, another course of the antiperiodic drug can be given for a week or so, after which a further course of Physical Therapy can be employed with great benefit. In this way, or under this regimen, the system can be freed of malaria and built up to a fairly high state of efficiency.





# General Articles



## Prevention of Malaria

MALARIA occurs in all warm climates more or less, especially in the summer, after rains and near marshy ground. Malaria is due to enormous numbers of the minute blood parasites known as plasmodia, which are introduced through the proboscis of a certain species of mosquito, known as the anophelines. Each parasite enters a red cell in which it lives and develops. This number rapidly increases until as many as some millions of them may exist in the patient's blood. The parasite tends to produce its spores all at the same time. It is at the moment when these spores escape that the febrile condition begins. In addition to fever the parasites often produce anæmia and enlargement of the spleen, especially in patients who have suffered from many relapses.

Malarial fever is an infectious disease, which is communicated from the sick to the healthy by the agency of certain mosquitoes. The disease tends to be most prevalent in the vicinity of marshes. The parasites of malaria have never been found in the air or water of marshes, nor in decaying vegetation, nor yet in the soil itself. The anophelines which carry the parasites breed in marshes and in marshy pools, ponds, low lands where water remains stagnant, and open paddy fields where the sun beats fiercely all day; this is contrary to the general idea and throws a different complexion of large areas under paddy in proximity to villages and towns. Rising from these marshes they enter the adjacent houses and feed on the inmates, mostly at night, biting first one person and then another, and living for weeks or months. If an infected person happens

to be present in any of these houses, the infection is likely to be carried by the anophelines from him to the other inmates and to neighbouring houses. Thus the whole locality tends to become infected or "malarious."

In malarious districts the anophelines bite the healthy new-born babes and infect many of them. Such children, if not thoroughly treated, may remain infected for years. They may become anæmic and possess enlarged spleens. They may also spread the infection to others. Later on, however, *at the age of twelve years or more, the survivors tend to become immune.* The chances of infection tend to be great in localities where there are already numerous infected persons, not treated with quinine, or where there are numerous anophelines of the proper species, which are not prevented from biting.

To sum up there are two great discoveries known at present, *viz.*

- (i) Parasite in the blood (*Plasmodium*).
- (ii) Malaria-carrying mosquito (*Anopheline*).

The theory "Man to mosquito and mosquito to man" is quite correct.

The malarial parasite does not live free in the soil, but enters the bodies of anopheline, undergoes changes there and is injected into the body of man through mosquito bite.

The anopheline has no black striations under its belly, sits curved, is slender in form, spends its entire life in the immediate neighbourhood of human dwelling, avoids places where draughts exist and seldom flies more than a few hundred yards. The anopheline is most active at early dawn and after sunset, passes the



day in some dark corner indoors, and does not make a humming noise. In autumn all the males die and the males do not sting.

Malaria can be transmitted from the blood of a malarial patient into healthy individuals by inoculation either subcutaneously or intravenously. The duration of infection in a badly treated or untreated case may approach the record of four years mentioned by Ross. Gametes as well as asexual forms appear in the relapses and presumably may infect suitable anophelines if these are present. Thus such people are a danger to the community at large.

#### Prophylactic Treatment of Malaria.

##### 1. General—

- (a) The land should be elevated and well drained.
- (b) Dwellings should be well raised and of impervious material to prevent all refuse water getting underneath the house.
- (c) Jungle should be made clear as much as possible.
- (d) The compound should be kept free from rank vegetation to a good distance from the dwelling.

##### 2. Personal—

- (a) Avoid chill, night-air and excessive exposure to the sun.
- (b) Avoid going outdoors after sundown or before five or six in the morning.
- (c) Avoid unnecessary fatigue, over-eating or drinking, and constipation. Fasting facilitates malaria more than when the stomach is full and the person in good condition.
- (d) Wear cotton next to the skin and flannel or woollen clothing outside.
- (e) Large fires have an important prophylactic influence.
- (f) Don't sleep on the ground.
- (g) Isolate the patient from endemic locality or segregate him in a specially made "mosquitoproof

house" with brass and nickel wire gauze.

- (h) Moderate exposure to sun light increases the resisting power of the system by the tonic effects of light on the red blood corpuscles.
- (i) Dress yourself well with white clothes towards evening to escape from the bite of mosquitoes.

*N. B.*—Mosquitoes are fond of black and blue colours.

##### 3. Use of Medicines—

Ten grains of quinine hydrochloride a day on two consecutive days in a week for a short time during the malarial season.

##### 4. Protection against mosquito—

- (a) by drainage of pools where anophelines may harbour.
- (b) extermination of mosquitoes by—
  - (i) Kerosine oil in stagnant water, e.g., pools, ponds etc.

The oil acting mechanically closes the openings in the respiratory siphon and causes the larvæ to die from suffocation. 1 oz., of kerosine to be floated to each 15 feet of water surface, will effectually destroy all the larvæ and pupæ in the pool.

(ii) The burning fume of the flowers of gutta percha tree kills mosquitoes.

(iii) Small fishes eat up all mosquito larvæ, hence they should be protected in all ponds, etc.

(iv) Flower-flies eat mosquito larvæ. They pounce down upon them and rapidly devour larvæ almost as long as their own bodies; at times they would fly away with the larvæ in their mouths.

(v) Small bats, small birds especially the sparrow, and the glow-worm are the natural enemy to the mosquito. They devour it very greedily.

(c) Mosquito net.

*N. B.*—A mosquito net can be had at the cost of three pials of most medicines.

(d) "Mosquito-proof house" with brass and nickel wire gauze.



(e) Mosquito trap.

"The mosquito nuisance is so marked in Calcutta and its suburbs that any device for getting rid of this unbearable pest will be hailed with delight. Mr. Lefroy, of the Indian Entomological Department, has devised a simple and cheap mosquito trap which is said to have been highly effective. A small box, 12 x 9 inches, fitted with a hinged lid, is provided with a small opening over which moves a sliding cover. The box is lined with dark green baize, and has a tin floor. The trap is placed in a shady corner of the room, and the mosquitoes, on entering the house in the morning, seclude themselves in the box to escape the sunlight. When duly settled the lid is shut, and about a teaspoonful of benzine injected into the box. Mr. Lefroy continued this process daily, and in a month caught 2,300 of the insects which succumbed to the benzine."—*Englishman*.

(f) Drugs applied to the skin.

Sponge the body well with the following—

- (1) R.  
 Quinine Hydrochlorate gr. ii  
 Glycerine oz. ii  
 Aq. Rosæ oz. vi

Mft. sponge before retiring to bed.

5. To keep Mosquitoes away.

(1) Dr. Lee O. Howard, the Washington entomologist recommends the following to keep mosquitoes from one while asleep.

R. Oil of Citronella

Spirits of Camphor aa. oz. i.

Oil of Cedar oz. ss.

Mix and apply a few drops on pillow and on a towel near the head of the bed.

(3) A good and more pleasant preparation to keep the pests away is:

R. Oil of Lavender,  
 Alcohol,  
 Castor Oil.

Of each oz. i. Mix and apply on face and hands and sprinkle a few drops on a towel hung at the head of the bed.

(4) Burning orange peel in the bed rooms is recommended by the Japanese as a mosquito-killer.

(5) Mosquitoes dislike the smell of the flower of "genda."

(6) Fumes of sulphur, scented resin, pyrethrum, or a mixture of camphor and carbolic acid, may be used.

6. For Mosquito Bites.

(a) Dr. Howard recommends the application of plain soap to the bitten places.

(b) The following collodion preparations are recommended to relieve itching and swelling:

(1) Menthol, 3 grains (0.2 Gm.); oil of turpentine and castor oil, 19 and 17 minims, respectively (1 Gm. of each); collodion, 4½ drams (18 Gm.). A drop of it is placed on the affected area.

(2) Collodion containing thymol instead of menthol is also effective.

(c) An excellent remedy for mosquito bites is 10% of Hydroxide of Potassium applied locally.





## Four Score Years and Eight

BY F. MAGEE ROSSITER, M. D.

FOR the origin of Mr. Gladstone's extraordinary vitality and of the unprecedented vigour of his old age, we must go back more than two centuries to the sturdy Scotch family of Gledstones. The very name—*gled* meaning hawk, and *stane*, stone—is indicative of fierce activity and rugged strength. Sir John Gladstone, William's father, was a man of great energy and ability, and, like his distinguished son, seemed destined never to grow old. One of William Gladstone's brothers possessed a magnificent physique, being six feet and seven inches tall, and of fine proportions.

Mr. Gladstone himself was endowed by nature with an iron constitution. That he entered life with a large capital of vitality and an enormous potential energy, to be manifested later in physical and intellectual power, has been without doubt the most important factor in the development of his personality and career. If his active work had ended when he was fifty years old, his life would have been no more remarkable than that of many other distinguished leaders in Parliament. It is true that many other men have been born with as many or even more chances of success and length of days; but by squandering their vital forces by the needless expenditure of energy and by wrong habits of life, they have cut short their usefulness at fifty years when they might have rounded out a full cycle of four-score years and ten. But Gladstone made a conservative use of his capital of vital force, living most of the time on the interest instead of the principal; and, as a consequence, at the advanced age of eighty-eight, he was still styled the "Grand Old Man."

The majority of mankind to-day are living artificial lives, drawing upon their

future reserve for present existence. All such are sure, sooner or later, to pass into physical bankruptcy. On the other hand, there are many who, coming into life with the disposition to make a grand success, being actuated by noble and lofty principles, and inspired by high and worthy ambition, are handicapped by a deficiency of vital force; consequently their energies are exhausted before the zenith of life is reached.

In this inherited difference in vitality more than in any other natural feature exists the inequality of man. While many forces combine to produce a character, yet it must be admitted that one of the most potent of these is heredity. It is an inestimable blessing to be well born; and if more of our race to-day had been the recipients of this greatest of all natural endowments, there would be more Gladstones in the world.

A good inheritance, however, is not enough to insure success; it must be conserved and developed. Mr. Gladstone appreciated his great natural force, and was able to use it to advantage. He was not an athlete in a professional sense, but was noted from his college days for his pedestrian disposition. From youth to old age he was a great walker, and many stories are told of his long tramps through the forests. He took very little interest in the recreations that absorb the attention of the average Englishman, but he always had a passion for fresh air and physical exercise. He sought an outdoor life. Hawarden Park was his hermit refuge from the city and the exacting duties of the premiership. One form of exercise to which this great statesman has given world-wide celebrity, is that of chopping wood. Not alone did his opponents in Parliament, but the huge elm trees of his



famous park as well feel the thundering energy of his tremendous blows.

A glance at any picture of him shows that the noted Englishman had a spare frame. As years advanced upon him, he did not develop the bulging waistcoat so characteristic of many of his countrymen, nor was he encumbered by any accumulation of superfluous adipose tissue. He was unceasingly active, developing muscle instead of storing up fat. His outdoor life was a shining illustration of the benefits to be derived from physical recreation by those who lead intellectual lives.

Mr. Gladstone was not confined to any one system of exercise or to physical hygienics alone. He was always careful to avoid continuous labour of any one kind on the same level of intensity. He recognised that the brain needs what the eye requires, a change in the accommodation and the angle of vision—it requires rest. Mr. Gladstone recognised the value of a symmetrical development of mind and body. He realised that too close concentration upon one line of effort is destructive to nerve force; that all who hope to develop a symmetrical life must have the rest that comes from a change in employment, and that irregularity in work tears down and wastes both mind and body before their time. Regularity was therefore a fixed habit of his life. He was always punctual at meals, and partook of his food with great relish, casting aside for the time being all perplexing problems. He was a moderate eater, but was not a teetotaller as to drink. He never used tobacco in any form. Doubtless, had he known and accepted all the latest scientific principles of health, and carried them out with the same ardour that he threw into those he did know, he might have lived to be as hale and hearty at one hundred as he was at eighty.

It is said he was able to dress for dinner

in three minutes if pushed and ordinarily in five minutes. If he had to wait for a meal or a train, he was never at a loss to know how to improve the spare moments. The most studious and the most successful men have always been those who made a judicious use of the odds and ends of time.

Another influence that tended to keep Mr. Gladstone in health and add to his years was the gift of sleep. Sleep had been his servant, waiting his command. At a moment's notice he could take a nap, and though it lasted no longer than ten minutes, he awoke refreshed. His nightly allowance was usually seven hours. Once in bed, he was there to sleep; immediately his mind was shut off from business cares. For this reason sleep to him was an exceedingly healthful recreation, and one that conduced largely to the serenity of mind which he always enjoyed. The fact that he could at once turn his attention from the exciting scenes in which his waking hours were spent, indicates that he had absolute control over his thoughts, and hence over his body. No one agency tends to perennial freshness of youth like an abundance of natural sleep.

Mr. Gladstone was free from worry, a characteristic that he turned to good account. It is said that at one time when he was in the midst of a cabinet crisis, he attended church three times on one Sunday. Amid all the turmoil of politics he was enabled to maintain a uniform and undisturbed peace of mind. This "Grand Old Man," by his noble and persistent conservation of strength, has shown to the whole world that "the days of our years are threescore years and ten," yet "by reason of strength" they may be fourscore years. Though none may escape the "trouble and sorrow" by right living, they may be minimised, and man may go to his long home blessed of humanity and of God.



## Is There a Present Truth in Hygiene?

FOR each locality, for each period, certain procedures are of such vital importance that all others pale in significance.

When "we" undertook the construction of the Panama Canal, the first great question to decide was, Shall man or mosquito run the isthmus? The question was decided in favour of man; the mosquito went; the canal was built.

No matter how much might have been done in the way of general hygiene,—food, exercise, clothing, and the like,—if that one question of the mosquito had been left unsettled, the canal would never have been built.

If man could have built a canal alongside mosquitoes, the French would have done it; for they lacked not a whit of energy and resources.

Man or mosquito had to be master on the isthmus. Not that the mosquito is necessarily fatal to man. But a certain species, if infected, transmits yellow fever, while other species transmit malaria.

Where the hookworm is in control, there may be several generations who have grown up without having seen the inside of the school—poor, miserable creatures more dead than alive. What good would general hygiene do for these until they are rid of their hookworms?

If, on the other had, they are rid of the hookworm, they gradually regain self-respect, and strength of body and mind; and if the process has not gone too far or too long, they may become quite normal.

In many places typhoid fever is a real and ever-present menace, and the first thing in order is to take means to prevent its spread.

Again, in certain districts, especially in congested districts, there is the tuberculosis problem looming up above everything else.

Plague infection must be guarded against in other sections, formerly our Pacific Coast cities, but now also in the East, and "Swat the Rat" may for the time be the all-important slogan.

There is no question that thoroughly carrying out preventive measures for any one of these or of other diseases, not only lessens the danger from the disease in question, but from other diseases as well.

That is to say, any special campaign in hygiene must have a good effect on the general health.

But observance of the general rules of diet, exercise, etc., may not have the least effect on some local condition, provided the mosquitoes, flies, hookworms, etc., are neglected.

It would seem, then, that the emphasis of teachers of hygiene should be laid on those measures which at the time or place are of first importance.

They should cry aloud and spare not, until the entire community is aroused regarding the matter of greatest danger; and then, after the ball is rolling as to the main issue, they can follow with instruction as to the details of general hygiene.

## The Medicinal Aspect of Fruit

H. M. LOME.

[This article shows the excellent benefits derived from fruits; but we must keep in mind that fruit acts differently on different individuals. Some cannot stand very sour fruits. In others the sweet fruits furnish more sugar than the system can utilize. In India where enteric fever dysentery and

cholera are prevalent it is better to peel or boil fruits before eating. Fruit picked and handled in the bazar with infected hands is very likely to spread these diseases.]

FRESH fruit is made up of water, protein, fat, carbohydrates, cellulose, mineral



matter, and the oils that give it its characteristic odour and flavour. The medicinal elements are found in the water, carbohydrates, cellulose and mineral matter. The flavouring constituents have their share in the curative properties also, by making the fruit grateful to the palate, and so desired by the healthy and the invalid alike. Some of them are so subtle and ethereal that they have defied the chemist to isolate them. But, curiously enough, they have been made by synthesis from that malodorous substance, coal-tar. The juice of fruit consists of distilled water impregnated with the carbohydrates and other constituents.

One half to three quarters of the carbohydrates consist of fruit-sugar, or levulose. Some fruits, including the apple, apricot, and pineapple, also have cane-sugar. Fruit-sugar is capable of passing into the blood without preparation on the part of the digestive organs. On the other hand, cane-sugar calls for work by one of the intestinal juices. Fruits rich in levulose are good for dyspeptic and diabetic patients. The carbohydrates, in addition to the sugars, include gums that on boiling yield jelly, owing to the presence of a substance known as pectose. On being digested, the jellies are turned into a form of sugar called pentose, that is said to have emollient qualities of a high order. Apart from their medicinal qualities, the carbohydrates are practically the nutritious elements of fruits, the protein and fat forming but a very small portion of their make-up.

While the amount of mineral matter found in fruits is small, something like five-tenths per cent, it has much to do with the curative properties of the fruit. In the main, such matter consists of potash, iron or phosphorus united with tartaric, citric, or malic acid,—organized salts capable of being assimilated by the human system. These salts when taken into the body are converted into carbon-

ates, and so help the blood to become more alkaline. When the blood has too much acid in it, maladies of several kinds are pretty sure to follow. Fruit salts restore the balance in the vital fluid, as it were.

The absence of earthy salts in fruits is noteworthy. Such salts have a bad effect on sufferers from certain diseases, including some forms of tumor and atheroma, or degeneration of the inner coatings of the arteries. Many physicians therefore prescribe the free use of fruit in place of cereals, because the latter are rich in the objectionable salts.

Citric acid, more than its fellow acids already named, occurs in the majority of fruits. As fruits ripen, their acids diminish with the increase in sugar. Ripening is therefore a sweetening process. A few fruits, such as the apricot, become sourer after cooking, because of chemical changes brought about by the heat. It is usually better to eat raw fruit, because it has curative qualities which the pot or pan may possibly destroy. Jams, jellies, and stewed fruits are appetizing and wholesome, but fruits taken for medical purposes, are better used as nature prepared them. Unripe fruits cause intestinal irritation by reason of their excess of acid.

Prof. Arthur Lonsdale, of London, spoke of fruits as "a globular framework of fine, easily digested and pharmaceutically valuable cellulose, saturated with distilled water containing fruit-sugar." The distinguished scientist is quoted because of his reference to the cellulose, his opinion being that of practically all members of the medical profession who have investigated the curative properties of fruits. This cellulose appears to have a direct stimulating action on the bowels. Those persons therefore, who suffer from constipation usually find ready relief by making fruit a prominent part of their daily dietary. Unlike artificial cathartics, the use of fruit does not entail subsequent con-



stipation, while the action induced by it is of a gentle and bland nature. Where there is much griping or other violent intestinal disturbances following the taking of fruit, it is a sure sign that it was either unripe or not fresh.

Citrous fruits include the orange, lemon, citron, lime, bergamot, shaddock, and grapefruit. These fruits are distinguished by the volatile oils found in their skins and flowers. From the skins, flavouring essences are made, and from the flowers, perfumes. Both of these have their place in the *materia medica* also, by reason of their stimulative effects.

But it is because of the citric acid that these fruits are best known; the lemon in particular being prominent in this respect. Many are the excellent medical qualities claimed for this acid. When diluted and sipped slowly, it will increase the secretion of saliva. It seems to be beneficial in muscular rheumatism; its power to allay feverish symptoms is well known. In many forms of skin disease, it acts like a charm. It is a certain preventive and cure for scurvy. Since it became a portion of the daily diet of seamen by law, scurvy, the dread and scourge of seagoers of old days, has practically disappeared. The writer remembers a sailors' song of English origin that was called "The Cantankerous Captain," two lines of which ran thus:—

"He puts 'em on a double watch; cuts  
'bacey, that's a fact;  
But he's got to pass the lime-juice out,  
according to the act."

The allusion is to the stringent British laws, or act of Parliament on the subject. Citric acid is also often used in medicine in combination with iron, magnesium, lithium, quinine, etc., "citrates" being the result.

Fruit acids are germicidal. The harbouring place for many of the most common and dangerous microbes that afflict humanity, is the intestinal tract. The use of

the citrous fruits is somewhat of a protection against maladies that these microbes cause. As a mouth wash, lemon-juice has some virtue. A very dilute solution of the acid can be used with advantage for tired eyes and inflamed eyelids. Scorbutic affections yield to its use. Lemonade is too well known as a refreshing drink to need mention. And as a drink for feverish invalids, it is unsurpassed. It is also good for diabetic patients. Travellers escape tropical fevers by the liberal use of drinks of which lemon- or lime-juice is the basis.

Apples, pears, and quinces are all members of a botanical family that includes the roses, and is scientifically known as *Pyrus malus*. Ripe apples eaten raw and thoroughly masticated, are sometime excellent for digestive troubles. In Devonshire, England, there is an apple-cure establishment for dyspeptics that is said to have effected some remarkable recoveries by placing the patients on an exclusive diet of the fruit. Skin and allied diseases yield to a treatment that includes apples as one of the chief articles of diet. Together with the pear, the apple is a mild aperient. Fresh apple-juice, taken before breakfast, is excellent for constipation. The quince is used only in the form of preserves.

Unfermented grape-juice acts as a mild laxative and diuretic, and diminishes the acidity of the urine. It is therefore good for gout, rheumatism, obesity, scorbutic afflictions, kidney troubles, and digestive disorders, including those that have their origin in the liver. And according to Robert Hutchinson, M. D., the famous English doctor, grapes are of the utmost value in the case of chronic bronchial catarrh.

At the European grape-cures, patients consume from one to eight pounds of the fruit daily. The grapes are not used as an exclusive diet, but are eaten between meals. Each patient has to gather his



own grapes. Doubtless this enforced exercise in the open aids the action of the grapes. An American physician who visited one of the French cures, noted that many of the patients were suffering from fatness of the lower part of the body, due to their indulgence in the good things of the table and the habits of inaction. To such persons, the effort of gathering the grapes was an affliction, yet a blessing in disguise. It is said that two or three weeks of grape-eating betters the condition of most of the patients.

Rhubarb, owing to the large proportion of oxalic acid that it contains, is a capital antiscorbutic. In minor forms of scurvy, it acts as a curative. The young plant when stewed and eaten at breakfast, is laxative.

Bananas contain more starch than any other known fruit. For this reason, while they are very nutritious, they are not laxative. They may be used with advantage by those who suffer from looseness of the bowels.

The fig is rich in cellulose. On account of this quality it possesses laxative powers of a high order. Confirmed cases of constipation can be cured by the use of *sound*, dried figs. Many figs offered to the public are moldy, partly rotten, or maggot-eaten, and unfit for consumption. They should be plump, free from a suggestion of mold or blight, and of a fragrant odour.

Peaches, apricots, nectarines, and all the stone-fruits, contain much cellulose, and usually have marked laxative effects. When fully ripe, they have a tonic quality that "picks up" those of delicate appetite. It is said by some investigators that this bracing effect is due to an infinitesimal quantity of prussic acid which gives the flavour to the kernel of the fruit, and escapes into the pulp. There are many poisons of the deadliest descriptions that, used in microscopic quantities, are of therapeutic value, and it would seem that that

of the stonefruits is one of them.

The plums have medicinal qualities akin to those of the fruits just named. The prune is especially well provided with cellulose, and hence its well-known effects on the organs of excretion.

Cranberries and gooseberries are plentifully supplied with acid, and are of value to those suffering from harsh, rough skin, or from scorbutic affections of any kind. Currants are also endowed with a liberal quantity of acid, but in addition have a very large percentage of fruit-sugar. Therefore they are fitted for diabetic patients as well as for anemic; for in both, such sugar can be used when other kinds of sugar would be harmful.

Iron salts enter largely into the composition of the strawberry, and make that fruit particularly acceptable to those who are nervous and run down. The acid of this fruit is also said to be of benefit to sufferers from kidney and bladder troubles. Because of the absence of canesugar in the strawberry, it also can be safely used by the diabetic.

The pineapple contains a substance that assists in the digestion of food. The pineapple is not suited to diabetics, owing to its containing cane-sugar. But in the case of others, it is of value for its digestive and antiscorbutic properties and for its stimulative action on the bladder. Also, if eaten in liberal quantities on an otherwise empty stomach, it will overcome ordinary constipation.

Dates are mildly stimulating. Tamarinds are markedly laxative. In the British army in the tropics, this fruit, preserved, is served daily for the purpose of insuring regular excretory action. Melons and pumpkins contain a comparatively large proportion of phosphoric acid.

Blackberries, raspberries, huckleberries, and other similar kinds are rich in acids and cellulose, and act as blood purifiers and laxatives. The cellulose takes the form of the pithy grains that are embedded in the pulp. These grains can not be digested. When one eats the fruit, the intestines make a special effort to rid themselves of them; hence the laxative action that usually accompanies the use of berries.



# The House We Live In

## Internal Respiration

### Gaseous Changes in the Blood

WHILE the air is the medium of exchange in external respiration, that is, between the air cells of the lungs and the atmosphere outside, the medium of internal respiration is the blood which takes up oxygen while circulating through the lungs, and then distributes it to all parts of the body. All the blood on returning to the heart after circulating throughout the body is sent direct to the lungs for a fresh supply of oxygen, after which it is once more again ready to vitalize the tissues.

### Gases in the Blood

Besides various corpuscular bodies and a large variety of nutritive and waste material, the blood also contains at least three gases, namely, oxygen, carbon dioxide, and nitrogen. We need take no further notice of the nitrogen gas in the blood except to say that it is always present in a small but constant amount, usually from one to two per cent. But the oxygen and carbonic acid gas are vital constituents of the blood stream, and with the absence of the former or the superabundance of the latter, life would soon cease to exist. The quantity of these two gases in the blood is constantly changing. The best arterial blood fresh from the lungs contains the maximum amount of oxygen, and the most vitiated venous blood as it enters the lungs contains the maximum amount of carbonic acid gas.

### Arterial Blood

After the blood is purified in the lungs it contains practically the same quantity of oxygen as the outside air, namely, twenty per cent, the largest quantity possible. It now takes on a bright red or scarlet

colour which is at once an evidence of an efficient oxygen supply. The bulk of the oxygen is taken up by the red blood cells which have been aptly described as oxygen carriers. But there is another change which takes place in the blood while circulating through the lungs, and that is the reduction of carbonic acid gas, which usually reaches a minimum of something like forty per cent. (See diagram.) Most of the carbon dioxide is found in the plasma or fluid of the blood. The reduction of carbonic acid gas also helps to heighten the brilliancy of the red colour. The bright, scarlet blood emerging from the lungs is called the arterial supply simply because it is distributed to the

| a                   |    | b                   |    |
|---------------------|----|---------------------|----|
| N                   | TO | N                   | TO |
|                     | 2  |                     | 2  |
| O 20                |    | O 12                |    |
| C O <sub>2</sub> 40 |    | C O <sub>2</sub> 46 |    |

Diagrams from Paton's Physiology showing difference in the gases of arterial and venous blood. (a) Arterial blood as it leaves the lungs after oxygenation. Oxygen 20 per cent; carbonic acid gas 40 per cent; nitrogen gas remains the same. (b) Venous blood as it enters the lungs for purification. Oxygen 12 per cent and carbonic acid gas 46 per cent.

tissues by the arterial system. When a vessel is cut or otherwise injured the blood spurts if it is an artery of any size, and the blood is of a pronounced red colour. But this is not the case when a vein is ruptured, for then the blood simply flows or oozes out and the colour is dark and more or less of a purplish tint.

### Venous Blood

The change from arterial to venous blood takes place in the thin, delicate,



hair-like capillaries of the circulatory system. It is while passing through these exceedingly delicate and thin-walled vessels that the red cells lose the oxygen, usually eight per cent, while the blood stream takes up an additional six per cent of carbonic acid gas. From the capillaries the blood is gathered up by a large number of veins and returned to the heart. This explains why it is called venous blood. As it enters the lungs for re-purification the venous blood contains about twelve per cent of oxygen and forty-six

per cent carbonic acid gas. (See diagram.)

The lungs are constantly at work purifying the blood by giving up oxygen and receiving in return carbonic acid gas, and the same is true of the blood as it is distributed throughout the tissues and organs of the entire body, whether the liver, the skin, muscles, bone, or brain. The blood gives up the much needed oxygen gas to the tissue cells and in exchange receives the carbonic acid gas which must be got rid of.—A. B. Olsen, M. D., D. P. H.



## Soups

Cream soups are seasonable at any time, using any vegetable in its season. Tinned goods may be used when the fresh article is not obtainable.

Vegetables that are too tough and old to cook in any other way, may be used in soups to advantage. If it can be afforded, a teaspoonful of whipped cream may be dropped into each plate, and will be found very delicious. By a puree is meant a soup thicker than a cream soup. If properly made, cream soups and purees are dainty, delicious, and nourishing.

Fruit soups are in favour during hot weather, for dinners and luncheons; they are very easily made, and are wholesome and refreshing.

Any desired fruit juice may be thickened with corn-starch, sago, or arrowroot, and served with or without fruit, hot or cold, with cracked ice.

### Kinds of Soups.

Observing these proportions and following the foregoing directions, delicious

cream soups are made of rice, squash, celery, peas, asparagus, cucumber, spinach, peanuts, potatoes, corn, lima beans, cauliflower, beets, tomatoes, salsify, chestnuts, nuts, mushrooms, onions, baked beans, lentils, macaroni, spaghetti, watercress, string-beans, sago, tapioca, barley, carrots, etc. All vegetables should be cooked very tender in boiling water. Add salt a short time before removing; if added when the vegetables first start cooking, it tends to harden them, and they therefore require longer cooking. They may be added to the soup with or without forcing through a colander. Rice and barley may be cooked in a stew pan, but sago and tapioca should be cooked in a double boiler.

If chestnuts are to be used, they should be boiled and mashed.

Macaroni, spaghetti, and vermicelli should be broken the desired length before being put into the boiling water. String-beans should be minced before they are added to the soup.



**Vegetable Stock.**

Boil minced turnips, carrots, celery, and onions in enough water to make half the amount of stock required. When the vegetables are done, drain, and add an equal amount of rich bean broth, with a little brown flour, nut butter, celery salt, and just enough strained tomato to remove the sweet vegetable taste. This stock should be of the consistency of broth when done. Protose may be cooked with the vegetables if it can be afforded. The vegetables should be put to cook in cold water, that the substance and flavour may be well drawn out.

**Foundation of Cream Soups.**

Rub one heaping tablespoon of butter and two of sifted flour to a cream; melt in a saucepan over the fire, and add slowly four cups of milk, stirring constantly. When it thickens, add salt, and whatever seasoning and ingredients are desired to make the soup.

**Croutons for Soup.**

Take thin slices of bread, cut them into little squares, place them in a baking pan, and brown to a golden colour in a quick oven.

**Egg Balls for Soup.**

Egg yolks, hard-boiled, 6,  
Salt, 1 teaspoon,  
Flour,  $\frac{1}{2}$  tablespoon,  
Egg yolks, raw, 2.

Rub the hard-boiled yolks and flour smooth, then add the raw yolks and the salt. Mix all well together, make into balls, and drop into the soup a few minutes before serving.

**Egg Dumplings for Soup.**

Milk, 1 cup,  
Flour,  
Eggs, 2.

Beat the eggs well, add the milk, and as much flour as will make a smooth, rather thick batter, free from lumps. Drop this batter, a tablespoonful at a time, into the boiling soup.

**Noodles for Soup.**

Beat one egg till light, add a pinch of

salt, and flour enough to make a stiff dough. Roll out very thin; sprinkle with flour to keep from sticking. Then roll up into a scroll; and beginning at the end, slice into strips as thin as straws. After all are cut, mix them lightly together; and to prevent their sticking together, keep them floured a little till you are ready to drop them into the soup, which should be a few minutes before serving. If boiled too long they go to pieces.

**Vegetable Bouillon.**

Vegetable soup stock, 2 quarts,  
Tomatoes, cooked and strained, 2 cups,  
Bay leaves, 2,  
Salt, 1 tablespoon,  
Onions, grated, medium size, 2.

Mix all the ingredients, and let simmer slowly two or three hours.

There should be about one quart of soup when done. Strain, reheat, and serve.

**White Bean Soup.**

White beans, 1 cup,  
Onion, medium size, 1,  
Salt, 1 teaspoon,  
Water, 2 quarts,  
Nut butter, 1 tablespoon.

Stew the beans and onions in the water until tender; add nut butter and salt; press through a sieve, bring to a boil, and serve. The addition of some cream will improve this soup.

**Bean Tapioca Soup.**

White beans,  $\frac{3}{4}$  cup,  
Tapioca,  $\frac{1}{2}$  cup,  
Salt,  
Water, 4 cups,  
Hot water,  
Cream.

Cook the beans in water till well done, press through a strainer, add tapioca, and cook till clear; add hot water to make of proper consistency; season with salt and cream; heat well, and serve.

**Lima Bean Soup.**

Lima bean or brown bean soup may be prepared the same as bean tapioca soup, omitting the tapioca.

**Bean and Tomato Soup.**

Beans, boiled, 1 cup,



Butter, 1 tablespoon,  
Rice, cooked,  $\frac{1}{4}$  cup,  
Salt,  
Tomatoes, stewed, 2 cups,  
Flour, 1 tablespoon,  
Boiling water for required consistency.

Rub the beans and tomatoes through a sieve; add salt, butter rubbed in flour, cooked rice, and enough boiling water to make the proper consistency; reheat and serve.

#### Bean Broth.

Small white beans, 2 cups,  
Onion, small, 1,  
Salt,  
Celery salt,  
Butter.

Wash the beans; add the onion, and cold water enough that when they have cooked three hours there will be six cups of liquid. Strain and add a pinch of celery salt and a small piece of butter. Salt to taste. This broth may be served to the sick instead of beef tea.

## FOOD IN RELATION TO HEALTH

### Beverages, Condiments and Spices

*(Concluded from September)*

The only proper stimulation of a weak digestion is not a condiment of some kind, but, in the first place, to reduce the work of the stomach to a minimum by chewing the food with absolute thoroughness; and second, to eat no more than the system demands of simple, wholesome foods which do not irritate the stomach. No one would suggest adding condiments to fresh fruits—and yet, just as the rich flavours of fruits are themselves sufficient stimulants of the appetite, so careful mastication of the commonest food brings out latent flavours which vie in delicacy with the flavours of the richest fruits; condiments and sauces can add nothing.

#### Salt.

Even sodium chloride, or common salt, is not indispensable, there being some few tribes of flesh-eating men who do not use salt at all, obtaining all the salt the body

requires in the food itself. Many persons will think themselves hopelessly addicted to the use of salt, but the testimony of persons who have eliminated salt from their dietary is that they have found their food to possess delicate flavours of which they were unaware when the presence of excess salt had deadened them.

#### Pepper.

Pepper, one of the most generally used of all the spices, and a native of Malabar, Java, Borneo, Sumatra, and Guiana, is the fruit of the pepper plant. It is the size of a small pea, and contains a grayish white seed. Picked as soon as ripe and dried on canvas, it becomes, when ground, ordinary gray pepper. When the skin or hull of the pepper is removed, before grinding, the ground product is the white pepper of commerce.

Pepper is frequently, one might almost say always, adulterated, the foreign particles which form the adulterants being hard to detect on account of the colour and texture of the ground product. Buckwheat middlings, charcoal, corn meal, roasted nut shells and fruit stones and cracker crumbs, are a few of the substances in most common use for the purpose of adulteration.

#### Cayenne Pepper.

Cayenne, or red pepper, contains slight nutritive properties, but these are not sufficient to offset the effects of the inflammation and the deranged digestion which its continued use produces in the stomach, and it should therefore be eliminated from the dietary.

#### Mustard.

Mustard, the ground seed of the mustard plant, is used chiefly in salad dressings, and with cold meat, and sometimes stimulates a laggard appetite. It is an irritant of the stomach, however, and its use in any quantity cannot be recommended. Adulteration of mustard is very

*(Continued on Page 264)*



# : Mother and Child :

## Keeping Young in Looks

WILLIAM J. CROMIE

IN building up a good complexion, or "keeping young in looks," one requires, in the first place, good health. To have good health, one must not eat too fast, too much, or improper foods; must exercise and bathe the body daily; and must secure sufficient rest and sleep. It is the failure to relax the high-strung nervous tension that makes most women "old before their time."

It is said that the busy business man lives too fast, and crowds on more and more steam until the boiler bursts; but I firmly believe that the American woman is more strenuous in her endeavours than the man. Her nervousness at times borders on hysteria. Observe her on a train or trolley; she is keeping time to the click of the wheels with her feet, drumming with her fingers, or clasping and unclasping her hands. Even in church or other public gatherings she is constantly adjusting her hairpins, or performing other fidgety movements. It is not that she is improperly dressed, but that she is extremely nervous, and barely takes note of these unnecessary countless movements.

A man after dinner will sit back in a comfortable chair and relax, whereas a woman flies, like one pursued, from luncheon to the sewing-room, the kitchen, or the shopping district. Long before her meal has gone through the first process of digestion, she is solving her daily problems and worrying at the same time. Is it any wonder that furrows appear between her eyebrows, and her lips set in a hard, compressed, and intent line? Hurry and worry are twin sisters, and usually one is in close proximity to the other. The

woman who hurries and worries unduly is bound to have crow's feet and a wrinkled, old-appearing countenance.

"But I simply can not relax," replies this high-strung, nervous woman. In a sense this is true; she can not *properly* relax in her present physical condition.

Relaxation is an art, and it takes years of patient cultivating in order to derive its full benefits. Relaxing and exercising go together. One who has strong muscles can relax more easily than one with soft, flabby muscles.

"But," objects she who does not know how to relax, "when can I find time to exercise? I am a busy housemother, and live in the suburbs. I must dress in a hurry, in order to get my husband and children off in good season for the train and school. I can not devote half an hour or so at any time during the day to exercise, nor can I sleep an hour or two after luncheon."

It is unnecessary to exercise a half-hour at a time or to sleep an hour or two after luncheon; in fact, there are very few who have time for such a daily regime. You surely can find five minutes in the morning and five in the afternoon to indulge in this one exercise which I am about to describe.

Stand before an open window or in the open air, and raise arms above the head, standing on tiptoe, and stretch up as far as possible. Take a deep breath while raising the arms. Now bend forward, letting the breath out while doing so, and, without bending at knees, grasp the ankles firmly. Do this ten times morning and afternoon. At first, you may not be able



to get as far down as the ankles without bending the knees, but if you persist, you will eventually. Every woman should be supple enough to perform this exercise with ease.

Cultivate the habit of stopping work three or four times a day to relax. If sewing, stop for five minutes, lie simply back in your chair, relax every muscle, close the eyes, and turn the eyeballs upward, and make the mind as nearly a blank as possible. If you can lie down for five or ten minutes, do so. Now get up and take a good stretch. The cat can teach us a valuable lesson. It takes many naps during the day, and is an adept in the art of stretching. In our cat-naps, it is not necessary really to sleep. By simulating sleep one can attain the desired result.

In riding home on the street-car, discard the newspaper and take a cat nap. Cross the feet, hands in lap, with palms up, relax and rest, and you will enjoy the evening's work or play much better.

I have so practised the art of relaxation that I become rested while hanging to a strap in a crowded trolley-car. I can even relax while standing on a platform directing gymnastic exercises to a class of one hundred fifty or more college students.

Some women are beautiful all their lives. Some retain beauty till forty or fifty years of age, and others, more's the pity, only till twenty or thirty. The saying that a woman is as old as she looks has a lot of truth in it, as usually one feels as old as she looks. Some are, indeed, old at thirty, while others are young at sixty. The best way to ward off old looks is by complete relaxing of the body five minutes at a time at every opportunity. This period of rest protects one against the hard lines due to sustained tension of mind or nerves.

In the exercise of relaxation it will be found difficult at first to dismiss every thought, but even this will come with

practise. In addition to relaxing the muscles, imagine that you are sinking down, down, down, through miles of soft, dark, restful oblivion, and that the world, with its cares and turmoil, is so far away that it need not concern you. Now, open the eyes, stretch in every conceivable way, and see how rested and refreshed you feel.

### THE BABY'S COLD

THE mother should do all in her power to prevent the baby from catching cold. Since we know that colds are catching, and will travel from one member of the household to another, the baby should not be allowed to come near any one suffering from this malady. If the mother herself has a cold, she should be careful not to give it to the baby. If an ayah is employed, she should be dismissed, if she has a cold, until after she has recovered. By avoiding a cold in the infant, many after complications will be avoided.

We look upon a cold too often as a simple, harmless thing. We take this too much for granted; as many a serious or fatal illness is the result of a cold. Infants that are strong and robust stand the invasion of a cold fairly well, as far as we are able to see, beyond a few restless days and nights. But the more unfortunate infant, who is just able to hold his own, may be made fatally ill by the extra demand placed upon his already burdened system.

Once the baby has caught cold, it is best to feed him more lightly for a few days. See that the bowels are kept open once or twice a day by enemas. The annoyance caused by the closing up of the nostrils, thus interfering with breathing and nursing, can be relieved by dropping into each nostril a couple of drops of an oily solution made up of two grains of menthol and two grains of camphor to the ounce of albolene or white liquid petroleum every two or three hours. Plenty of water should be given between the feeding periods. These simple directions, if followed out carefully and faithfully, will save many an hour of worry.





## Physical Culture

BY A. WALLACE JONES, PRINCIPAL OF THE LONDON PHYSICAL INSTITUTE

LIE down flat on your back, with a light dumb bell in each hand, arms extended full length above your head. Bring the arms over slowly, passing over the head until they rest at the sides, raising the



Exercise No. 17.

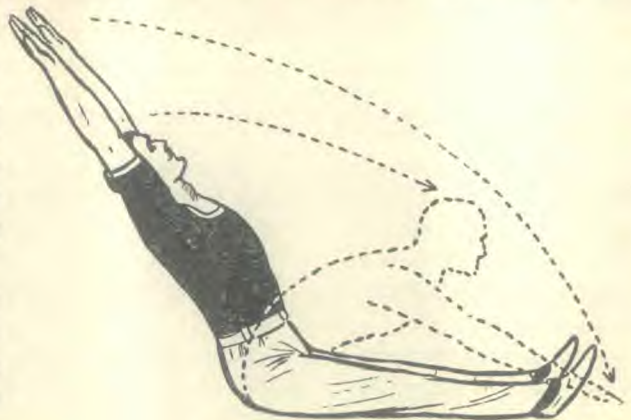
head at the same time by the neck muscles chiefly, and keeping the shoulders flat. Exhale fully, emptying your lungs as your arms come over. Let your hands touch your sides, your head reach its highest possible point, and your lungs empty at the same time if possible. Pause while you count five, and then return your arms and head to the first position, inhaling slowly the while. Repeat twenty times or longer, if possible, without too great a strain or fatigue.

In a sitting posture on the floor, stoop as far forward as possible, touching or reaching past your toes with the palms of your open hands. Then raising the arms above the head, lean well back, inhaling deeply the while. Go as far back as you

can, keeping the arms straight and leaning your head well back. Come forward again to your toes, exhaling the while. Be sure when inhaling to fill the lower lobes of your lungs, pressing the diaphragm well down, and when exhaling press in your abdomen so as to expand your chest. Continue the exercise until tired.

Lie down on your right side on the floor, resting your head on the palm of the right hand, the arm being bent at the elbow. Then with the left arm

stretched out in front of you swing it sharply backward as far as it will go, going through the reverse movement with your left leg, viz., as far forward and as far back as they will go



Exercise No. 18.

The right leg to be kept riding the while. Repeat ten times, then turn on your left side



and repeat the exercise ten times; with right arm and right leg. Now, if not too tired, turn back and go through it again five more times with left arm and leg, and also with right arm and leg. Attempt



**Exercise No. 19.**

another five repetitions of each, and so on till you feel yourself unable to continue. All movements to be performed as sharply and quickly as possible. Lie down full length on the floor, with arms extended, palms upward, to full stretch above the head. Take a full deep breath, and then "double yourself up," bringing your legs up sharply by bending your knees and bring up the upper part of the body,



**Exercise No. 20.**

clasping your hands round your shins, just below the knees. Rest so a while, as long as you can conveniently, and sink back to the first position. Repeat five to ten times, if possible with practice the number of repetitions can be increased. Inhale always deeply and fully when at full stretch. This exercise will almost certainly at first be found difficult of performance. It should, however, be persevered with,

since it will be found the most effective of all, not only rapidly reducing the superfluous tissue, but also restoring very quickly much of the lost agility.—*From Fifty Exercises for Health and Strength.*

## The Hygiene of Deep Breathing

WILLIAM J. CROMIE

THERE are modifications in normal respiratory movements in such acts as singing, crying, shouting, coughing, sighing, and talking, which require considerable nervous and muscular energy, and they have a beneficial influence upon the functions of the body.

To interfere with these acts is sometimes injurious. Take the child, for instance; it is not always best to repress its cry. Dr. Campbell claims that crying, especially in women, favours the proper expansion of the lungs, accelerates the circulation of the blood, deadens the effects of pain and relieves nerve tension. Professional singers are comparatively free from pulmonary disease. To be a public singer, one must have a good chest development and take both breathing and

muscular exercise; in fact, the famous singer must live a hygienic life. I frequently have the students in the gymnastic classes sing a college song while performing dancing steps or other light exercises, not only for pleasing variety, but on account of the benefit to the lungs. Children should be taught to sing both at home and in school.

The act of shouting is emotional. The shouting of children at play is the outcome of exuberant emotion and pent-up neuromuscular energy, and the game or play is enhanced by this outburst. Shouting is an emotion that is spontaneous with both the individual and the mass, and should not be repressed. Women should shout at every opportunity, and if this is denied them, singing should take its place.





# ABSTRACTS



## TO COMBAT TROPICAL DISEASES

The American Ambassador was the guest of the Anglo-Saxon Club dinner. In his speech he announced that a wealthy American had given twenty millions sterling, the annual interest of which, amounting to a million sterling, was to be devoted for some time to combatting tropical diseases by an international health commission.

It is surmised that Mr. Rockefeller is the donor of the £20,000,000 sterling for combatting tropical diseases, as the International Health Commission mentioned by Dr. Page is one of the agencies of the Rockefeller Foundation, being an enlargement of the commission financed by Mr. Rockefeller to discover a cure for hookworm disease.

In an interview Mr. Page said his remarks had been misunderstood. The gift was not that of an individual, but a foundation established by a number of wealthy citizens of the United States. Mr. Page had no information as to their identity. Special attention would be paid to the cure of anæmia among the natives of tropics.

Doctor Wickliffe Rose, who is in charge of the anæmia, or hookworm, department of the Rockefeller Foundation, is proceeding to England shortly to make plans for widening his investigations. He will also go to India to co-operate with British physicians studying hookworm there, as part of the scheme of the Rockefeller Board, to make a scientific study of this disease throughout the world. It is believed that the industrial efficiency of India alone might be improved 50 per

cent., if the Board's investigations could lead to the subduing of hookworm.

## ANOTHER ROYAL COMMISSION?

THIRTY of the leading medical men in England have made an appeal for the appointment of a Royal Commission to investigate and recommend steps to combat venereal disease. They quite rightly point out that on this unpleasant subject there has always been a conspiracy of silence, and the appointment of a Royal Commission, if it does nothing else, may at least break down that conspiracy which has too long maintained for the benefit of old women of both sexes who are afraid to look squarely at the facts. We do not suppose that a Royal Commission could do anything except spread knowledge on the subject, but that is exactly what is wanted before any effective measures can be taken to combat these forms of contagious diseases. There is not the slightest chance that as a result of the Commission's inquiry, any attempt will be made to deal with the problem by methods of compulsory isolation and treatment: another Contagious Diseases Act or what is generally called the State regulation of vice is quite unlikely in England. But what can be done, is to diffuse knowledge of the serious consequences of these diseases and to provide effective treatment for both sexes under conditions to which no penal stigma is attached. This was urged some years ago by the advisory board for Army Medical Services, in whose report it is stated that the opinion of many competent Continental authorities is to the effect that the voluntary submission to treatment by infected persons is more likely to diminish



the prevalence of venereal disease than the compulsory treatment by the police regulation of a special class only. But it is obvious, from the statistics quoted by the doctors who have made this appeal,

that the public in England suffer from ignorance as much as from anything else, and a cleaner bill of health is not to be expected until there has been a very wide diffusion of knowledge.—*Times of India.*

## : In the Absence of the Doctor :

### THE PRINCIPLES OF FIRST AID

1. The first duty is to endeavour to obtain medical assistance, and whilst waiting for the doctor to merely attend to actual emergencies. Never undertake the continued treatment of injuries or sickness.

2. Promptly remove the cause of the injuries or danger.

3. Where an injury is associated with hemorrhage, first stop the bleeding.

4. Place the injured part in as comfortable a position as possible.

5. Give the injured person as much air as possible and keep him warm or cold as the case may require.

6. Learn to use improvised materials, as accidents generally happen when no materials such as splints and bandages are at hand.

7. Endeavour to be,

(a) Observant, that you may note the causes and signs of injury.

(b) Tactful, that you may without thoughtless questions learn the symptoms and history of the case.

1. Signs of what may be perceived.

2. Symptoms of what the patient may tell you.

3. History, or the circumstances attending the accident or sudden illness.

(c) Resourceful, that you may use to the best advantage whatever is at hand to prevent further injury and to assist Nature's efforts to repair the mischief already done.

(d) Explicit, that you may give clear instructions to the patient or the bystanders, how best to assist.

(e) Discriminating, that you may decide which of several injuries demand immediate treatment by yourself, and what can best be left to the patient or bystanders to do.—*Indian Manual of First Aid.*

#### Variety of Fractures.

*Incomplete.*—This is a fracture in which the bone is not broken all the way across. It generally occurs in the young, before the bones become hard and brittle. A fracture of this kind acts much like the breaking of a green sapling when bent. It withstands the bending as long as it can and then cracks part way into the wood and splits downward and upward. This is often what occurs when violence is placed upon the bones before they reach maturity and become brittle. The clavicle very often breaks in this way in youth. It is often referred to as the "green stick fracture."

*Complete.*—A fracture is complete when the bone has been broken all the way across, and the ends override each other in proportion to the displacement of the bones. In some cases the ends slip by each other for a distance of two to four inches. This causes a shortness in the limb.

*Gunshot.*—A fracture caused by a gunshot varies with the kind of bullet, missile or gun that is used. Soft nosed bullets with slow velocity sometimes shatter the



bone from end to end. This makes a very bad fracture, and one in which it is impossible to get very good results. With a steel bullet of high velocity the bone is sometimes merely penetrated, leaving a hole or simple fracture which soon heals. The late Balkan war was very humane in this respect, as steel bullets of high velocity were used. If there is much laceration of the flesh, infection is liable to set in, but this infection does not come from the bullet which is sterile when it is fired from the rifles.

*Simple.*—A fracture is simple when the skin has not been broken. There are two fragments and the seat of injury in the bone does not communicate with the air.

*Compound.*—A compound fracture shows a break in the skin. This may be caused by the impediment that brought about the fracture or by the sharp ends of the bone forcing their way through the skin. The seat of fracture communicates with the exterior. Infection is very liable to follow this kind of fracture and may become very troublesome.

Then again fractures may be comminuted, multiple, complicated, impacted, transverse, oblique, or longitudinal, according to the direction of the line of fracture. A complicated fracture is attended by injury of the muscles, nerves, and blood-vessels. In an impacted fracture the ends of the bones are driven into each other end to end. This is the fracture that often occurs at the lower end of the radius, and one should be careful not to break up this impaction.

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## FOOD IN RELATION TO HEALTH

### Beverages, Condiments and Spices (Concluded from Page 257)

common—wheat, corn and rice flour being the chief adulterants.

#### Ginger.

Ginger is used chiefly as a condiment. Its chief food value lies in its starchy ele-

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ments. It lends itself readily to adulteration, and examination with the microscope reveals rice, wheat and potato starch, hulls of the mustard seed, exhausted ginger from ginger ale and extract factories, sawdust, and peanut shells, artificially coloured.

**Cinnamon and Cassia.**

These two spices are less injurious to the mucous lining of the stomach than the condiments which we have named, and possess, in common with nutmeg and allspice, a pleasing aroma which is made use of in puddings, cakes and other desserts. The nutmeg is the kernel from the fruit of an East Indian tree, while allspice, or pimento, is the fruit of a common West Indian tree.

**Cloves.**

Cloves are the buds of a tropical evergreen, picked by hand, and dried in the sun. They are wholly innutritious, and are injurious to the mucous membrane which lines the stomach.

**Vinegar.**

Vinegar is entirely devoid of food properties, its chief value lying in the flavour and palatibility which it imparts to other foods. The large amount of acetic acid which it contains is decidedly injurious to the lining of the stomach, and produces in the liver a condition which resembles what is known as "gin liver." Lemon juice, either pure or dilute, serves practically every purpose of vinegar, and is superior to it as a relish for salads and greens.

Vinegar is also used extensively in preserving foodstuffs of various kinds, but usually the foodstuffs are indigestible in themselves, as, for instance, green cucumber pickles, which, though not particularly indigestible in their natural state, are made so by the vinegar which is almost always used as a dressing for them.

**Horse Radish.**

Horse radish contains 10.5 per cent of carbohydrate material, and food value to

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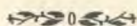
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the extent of 230 calories to the pound, but it is so excessively irritating to the mucous linings of the body as to render it positively injurious in whatever form it is eaten. To a lesser extent the same is true of the various sauces—such as Worcestershire, tabasco, catsup, etc.

T. C. O'DONNELL

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## NEWS NOTES

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### SUNSTROKE.

During a recent hot spell of the summer season 40 deaths of Sunstroke were recorded in Chicago in one day.

### CANCER RESEARCH

The annual report of the Cancer Research Fund shows no progress towards the discovery of its causes, its treatment or cure. Surgical extirpation in the early stages is the sole remedy. Observation in connection with mice tends to suggest that the disease may be hereditary from parents, but scarcely from grand-parents or remoter ancestors.

### BROMO-SELTZER DANGEROUS

Physicians realize that this substance which is now "on tap" at about every soda fountain, and which is used frequently and constantly by some persons, is a dangerous, acetanilid drug; and one case has been cited by Dr. Douglas, of Boston, in which a grave mental condition—absolute dementia, in fact—was shown to be directly caused by the use of this dope.

### HEROIN AS A HABIT-FORMING DRUG.

Perhaps from the mistaken notions of physicians, but doubtless in other cases in order to evade the law against the sale of morphin, heroin is increasing in its use as a habit-forming drug. Not only is it not a less harmful drug than morphin, as has been supposed, but it is possibly even more disastrous in its effects in some cases. The statement made by some dealers that it "does not produce narcotism, constipation, gastric disturbance, or habituation, is decidedly misleading. In many cases the drug is being used by snuffing, and in such cases a bad chronic coryza is produced.

## The Arc Light



In the treatment of local conditions by the application of dry heat, one of the most beneficial appliances is the electric arc light as shown in the accompanying illustration. This form of treatment is in constant use in both the Mussoorie and Calcutta Treatment Rooms. It is one among numerous successful forms of rational treatment used in similar institutions throughout the world. For particulars as to treatments given and rates please apply to

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75, Park Street, Calcutta.



**KASAULI PASTEUR INSTITUTE.**

As many as 3,548 persons attended the Pasteur Institute at Kasauli last year for the anti-rabi treatment, and 360 others were advised that treatment was not necessary in their case. The Institute at Coonoor also attracts many patients. If the present rate of increase in the number of patients continues, it is predicted that two more institutes would ere long be needed in other parts of India.

**COCAINE SMUGGLER SENTENCED.**

In the Egmore Police Court, Madras recently, Mr. F. D. Bird, Chief Presidency Magistrate, delivered judgment in the case in which Vellora Prodam, an Austrian stoker on board the steamer Silesia was charged with smuggling more than 26 lbs. of cocaine into Calcutta. The accused was convicted and sentenced to three months' imprisonment and to pay a fine of Rs.1,000, in default to three weeks' imprisonment.

**DRINKING IN CHINA**

The drinking habit, though it has as yet not been fully manifested among the people of China, has already begun its work among those who have come longer under the influence of Western civilisation, says the "Republican Review." In Hong Kong, Singapore, Penang, and other colonies indulgence in whisky, brandy, and other strong alcoholic beverages has become a fashion among the Chinese. Now, Shanghai, Tientsin, and other treaty ports are exposed to the scourge, which, with the incessant smoking of cheap cigarettes, is replacing the opium evil.

**BHOWALI CONSUMPTIVE SANATORIUM.**

The King Edward Sanatorium at Bhowali in Naini Tal district seems to be very popular. Last year its accommodation was taxed to the utmost and patients had to be warned that they could not be admitted. No evil effects on the health of the patients were observed during the months of heavy rainfall and it seems to be proved that the heavy Himalayan rainfall is not in itself injurious to consumptive patients provided that all other surroundings are salubrious. High winds accompanied by dust in the plains in hot weather are more to be feared than the Himalayan rainfall.

**The Best Drink**

for either warm or cold weather is *Caramel Cereal*. Served in cold weather piping hot for breakfast, tea or luncheon, it is unequalled. Served cold, iced if you desire it, in the hot, steamy months, it is delightfully refreshing.

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## SMALL-POX AT SYDNEY

Small-pox is still spreading. The Government has decided to introduce legislation to provide for compulsory vaccination. Owing to the large number of vessels in quarantine, trade, particularly shipping, is seriously affected. One case has occurred in Melbourne.

## U. P. LADY MEDICAL STUDENTS.

The lady medical students in the United Provinces are reported to be making remarkably good progress and holding their own with the men. Difficulty seems to be experienced in recruiting them for university degrees, because scholastic institutions are wanting which can provide them with the training in science requisite to pass the intermediate science examination, which is a necessary condition to obtain a medical degree at the university.

## FIRESIDE CORRESPONDENCE COURSE

TWENTY-FOUR courses are prepared, in which three hundred and ten pupils took work last year. Courses in Public Speaking, Latin, and Hebrew will be added in September. The "Mothers' Normal Department," long contemplated, will then begin its work under the direction of Mrs. C. C. Lewis. Two courses will be offered at first, one for young mothers, covering the care and training of the child until five years of age; the other giving specific directions to mothers for conducting kindergarten and first grade work during the fifth, sixth, and seventh years. If other grades are now needed, write us about it. The new descriptive catalogue giving full information about courses, method, terms, etc., will be ready in July. All who are interested should write for a copy at once, addressing, *The Fireside Correspondence School, Takoma Park, Washington, D. C.*

C. C. LEWIS,

Principal.

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