The

Therapeutics of Water.

a Thesis for the degree of M.B.
presented by,

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The Therapeutics of Water.

It has been remarked that it is much to be regretted that, in this country, there is at present little systematic relation between hydrotherapeutic and general medical treatment, and that the experience gained at hydrotherapeutic establishments is not communicated and discussed in our medical societies and rarely in our medical journals. That there can be no doubt that hydrotherapeutic measures might be more widely introduced with great advantage into our hospitals, as well as into our private practice; but that this is not likely to be the case so long as the medical profession has not fuller opportunities for studying their effects.

Having formerly, for some considerable period, in addition to my private practice, held the appointment of Physician to the North Wales Hydrostatick Establishment, I have had a good opportunity of observing the effects of water as a therapeutic agent; I have also
had a fairly wide experience of its use in general practice, and, having no predilection in the matter, have been enabled to form an unbiased opinion as to its merits.

The result of my observations has been to impress me with the excellent effects to be obtained from it—broad in a long list of morbid conditions and known of no remedy which, intelligently and carefully used, is of more general service and assistance to the physician. I would however, as the outset, premise that in my hands, it has been used as an adjunct to the ordinary medical treatment.

The successful use of water as a therapeutic agent is by no means a simple matter. It requires a thorough appreciation of its influence when the system in general, when the blood, the circulation, the nerves and nervous centres, and when each of the organs in particular. The ability of determining the idiosyncrasies of each constitution and estimating its power of reaction.
Under varying conditions, the skill to use it in the proper way, in the proper dose, and at the proper time are also requisite. Water was probably man's first remedy for injuries and diseases. His earliest essays in the art of healing were undoubtedly with its use: to wash his wounds, to cool the heat and abate the pain of inflammation. The advance of civilization, the progress of science, and the consequent multiplication of remedies, naturally led more and more to its decline and the quackery, with which in more recent years it has been largely associated, has caused therapeutic procedures to be more or less discredited by the medical profession; a fact which is to be regretted, for, with scientific observers, who understand their use without abuse, and use them, not instead of, but in aid of medical treatment, they become of the highest value and strength. In the hands of those who truly employ them, the fact that divine truths of our
food is nothing less than water, that some of solid food water constitutes your fifth, and that all our tissues contain a greater or less proportion of this fluid, is sufficient to show its absolute necessity for the existence of the animal economy, a truism too well known to need discussion here. A proper supply of water is, moreover, one of the first requisites for the maintenance of health. This change is dependent upon the existence of a certain amount of water in the system, and water is necessary for ensuring the efficient performance of digestion. A fair proportion taken with the food promotes the secretion of gastric juice, but in excess it weakens digestion by weakening the digestive power of the gastric juice by too great dilution; this explains why the habit, some dyspeptics have, of drinking water freely with their meals aggravates their dyspepsia. Water should always be drunk after meals, if then promote the
absorption of the hesions from the intestines, and, in this manner, indirectly assist the digestive process in the colon, as it is considered that the presence of the hesions is a hindrance to its continuity; indigestible articles of diet are also carried from the stomach into the intestine and, if not there digested, are discharged with the motions, thus relieving the stomach and bowels from what would otherwise be causes of irritation.

The greater proportion of the excess of water from the system is considered to be secreted by the kidneys, and, in temperate climates, as doubtless this is so; my experience in the Red Sea, Indian Ocean, Straits Settlements, China, and the summer heat of New York, convinced me of the active part taken in secretion by the skin at high temperatures, perspiration being constant and profuse while secretion by the kidneys was correspondingly diminished. I found that secretion by the skin was in a direct ratio to
the amount of water drunk and that the rapidity of the secretory process was in proportion to the atmospheric temperature, the higher the temperature the more rapidly secretion took place. Variation in temperature did not seem to affect the rapidity of secretion by the kidneys, but a rise in temperature was usually attended with a diminution in the amount, owing, doubtless, to the increased activity of the skin. It is astonishing how freely secretion by the skin takes place at high temperatures; the temperature of the stove hole of the steamer in the Red Sea, in the hot season, was 140°F. to 160°F., the firemen drank copiously of water and, as the result of this and the high temperature in which they worked, they were positively dripping with perspiration which ran in sinuous streams, forming pools as they flowed. This observation of the relation between drinking and perspiration caused me, out of regard to my own comfort, to limit my consumption of water in the tropics.
to as small an amount as possible.

Drinking very cold, or iced, water hinders digestion, probably by diminishing the calibre of the capillaries and small bloodvessels of the walls of the stomach and thus lessening the bloodsupply and checking the secretion of the gastric juice. Dyspepsia is rampant in America, and my experience in New York convinced me that the constant consumption of ice and iced drinks, which goes on during the greater part of the year, could not fail to be one of the most prolific causes of the prevalence of dyspeptic disorders. I therefore advise delicate people, with weak digestion, to drink either cold or warm water with their meals during the winter months; this will be found very pleasant and an aid, instead of an inconvenience, to the digestive process. A tumbler of hot water drunk when going to bed is remarkably soothing and comforting, stimulating recklessness and wakefulness and...
In the process of sleep, tissue disintegation is increased by the amount of water drinking; the amount of tissue change varies with different individuals; according to Parker, it is greatest in weakly persons, causing an increase of temperature in the same way as in febrile conditions; it occurs more in children than in adults, in women more than in men, if, however, the effect of drinking water was to cause disintegration of tissue alone the result would be decrease in weight but at the same time that increased disintegration occurs, there is a corresponding gain in the powers of assimilation, so that water may increase both construction and destruction of tissue, and thus act as a pure tonic, improving both mental and bodily vigor.

The use of water as a therapeutic agent must be conducted with considerable caution in the case of delicate patients, otherwise it is apt to prove disastrous by injuries, causing loss of weight, and increasing debility and prostration.
The malaise assume as the chief reason for this, that in states of debility there is a corresponding weakness of assimilation power, and consequent upon this, tissue destruction takes place to a greater extent than tissue assimilation. Destruction is greater than construction.

Under suitable precautions this condition of things can be reversed and assimilation increased over destruction, a gain weight and strength taking place.

Water promotes the absorption of most medicines; this is more particularly the case with regard to alkalies and iron, and explains the reason why natural water containing these remedies so frequently do more good than the same agent taken in the ordinary way, for in the natural water these are contained in a high state of dilution, is to the usual medicinal methods. They are in a comparatively concentrated condition, which is as to hinder their assimilation.
disorders the stomach, and cause them to disagree.

In general practice it would be inconvenient to prescribe these remedies in a large, dilute form, and objections would be made to their bulk and the quantity required to be taken for a dose. I have found, however, no difficulty in attaining the object in view by directing patients to drink a glass of water after each dose of medicine, warm or cold, according to the remedy and the case—explaining that doing this would have the twofold advantage of promoting the beneficial effects of the drug, and taking away its taste; this procedure has also another good result, as it obviates the necessity, which exists on the part of so many, of taking sweets or preserves, after their medicine, to remove the unpleasantness of its taste. Whatever opinion may be entertained as to the desirability of these things in general for
the patient, there can be no doubt that this is an especially unfortunate time for them to be taken, being then more than usually liable to cause disappointment, and if any complications occur, the onus of this is laid on the medicine. I have been most favourably impressed with the excellent result to be obtained when prescribing alkalies, or chalybeate, by accompanying their use with the regular injection of water in the manner mentioned; the water, besides promoting absorption, acts as an emetic, washing away waste products, and increasing the growth of new material. The volume of blood in the system is increased by the imbition of water; the blood pressure in the arteries rises as a natural sequence, and this is in turn followed by a free secretion from the kidneys; if the amount drunk be considerable, the urine becomes straw coloured, and if the water drinking is continued almost colourless,
being little more than pure water. This is accompanied with an increase in the excretion of urea, phosphoric and sulphuric acids, and chloride of sodium, it will be found however, that as a general rule, the secretion of urine and the secretion of urinary solids have as relation to each other; in other words, that the urine may become scanty without which its specific gravity may be increased, and that the flow may increase while the specific gravity may decrease.

I would now propose to shew the physiological effect of the external application of water, used in the form of baths. The nomenclature of baths is determined by the temperature of the water—50° F to 70° F being a cold bath, 70° F to 90° F, tepid, 90° F to 100° F, warm, 100° to 110° hot. The latter bath is divided into tepid 90° F to 100° F, warm 100° to 115°, hot 115° to 140° F. The distinction of the thermometer are however not to be blindly followed,
so much depends upon individual susceptibility and idiosyncrasy, on the patient’s temperature and temperament, and general bodily condition, that in ordering baths each case must be decided on its own merits.

What is one so “cold” as to another “fvid”, the “warm” bath to one may be “hot” to another, and the same difference of sensation may occur to the same individual under varying physiological conditions.

Any bath, wherein the temperature of the water is below 70° F., may be designated “cold” for all practical purposes.

The first effect on entering a cold bath is one of shock, the lower the its temperature, the greater the shock; there is an immediate loss of surface heat, a rapid contraction of the superficial blood-vessels, and through the cutaneous nerves, a powerful impression is produced on the nerve centres. The sense of shock is, however, transient, and is followed by
a feeling of depression, which is also more manifest according to
the coldness of the water... On looking at the skin, it is seen to become pale, and the
condition termed “goose flesh” manifests itself, being brought about by the skin contracting and
causing projection of the hair roots and follicles... There is a sense of coldness, more or
less shivering, a tendency to trembling in the limbs, oppression of the chest, gasping and
irregular respiration, diminution in the force and frequency of the pulse, and a fall of one or
two degrees in the surface temperature, the oral and
rectal temperatures rising from a half to one degree.

The difference between the external and internal temperature
of the body is interesting, as showing that the effect of cold
in causing contraction of the superficial blood vessels, produces
a temporary concretion internally.

The duration and intensity of the condition of depression varies
according to the temperature of
the water, and the general physical
condition of the individual, more
especially, as regards the state
of his circulation.
With an average physique, and
at a temperature of the water
not below 50° F, the period
of depression does not continue
beyond one to three minutes, and is
followed by a period of reaction
and excitement. The pallor of
the skin is succeeded by a
general redness as the blood
returns to the surface, being
accompanied by a sensation of
glowing warmth; the respiration
becomes regular, easy, and
deepl the pulse increases in
strength and frequency to
somewhat beyond the normal;
whilst there is a general feeling
of improved strength and
vigor, and buoyancy of
spirit.
The duration and intensity of
the period of reaction is also
dependent on the temperature of
the water, and individual
idiosyncrasies; the colder the
water the intensity the reaction and the shorter its duration both duration and intensity are increased in proportion to the higher physical condition of the individual.

The consideration of these facts is of considerable importance to the physician as the cold bath, judiciously prescribed, is a most powerful general tonic, under its use, tissue change is increased, the blood purified and waste products removed. In appropriate cases I know of no therapeutic agent which will achieve the same results in the same time. The complexion clears and gets colour, there is a gain in weight not due to accumulation of fat but to increase of muscle. The flesh feels firm and elastic, the eye is brighter, the walk more buoyant, the mind more active, whilst appetite, digestion, and assimilation improve and nutrition consequently is increased. Though the cold bath judiciously prescribed and administered,
is a potential aid for good, under judicious management it becomes equally harmful. If prescribed at a temperature too low for the cold resisting power of the patient, the depressing effects are too great, and beyond his strength to overcome, so that reaction either does not take place, or does so but feebly. The feeling of coldness on first entering the bath, instead of passing off, increases, the patient becomes chilled, shivers, and is generally wretched, and miserable. The pulse is weak and small, the respiration shallow and irregular, the surface temperature will fall ten or fifteen degrees below the normal, the oral and rectal temperatures in place of rising, are depressed to 95° or 96° F. and the general condition tends to be an anxious one, whilst as the circulation in the extremities becomes practically stopped they turn a yellowish-white colour, and sensation is lost.
When this state of things occurs, the bad effects are not onl
y confined to the time that the patient is in the bath, but for some hours, and occasionally for days, after. There seems an incapability to feel warm again, the chilliness and shivering continue, the circulation remains feeble, malaise, loss of appetite, and, not infrequently, nausea and sickness are present with fretfulness, depression of spirits, and torpidity of mind. The consequences may be both yet more serious and congestion or inflammation of some of the internal organs may supervene.

The same untoward results occur if the cold bath be continued beyond the patient's cold resisting capacity, for, though reaction may have taken place satisfactorily, if the bath be unduly prolonged, a condition of depression is again produced, with all the concomitant evils described in the preceding paragraph. This secondary period of depression differs
from the primary, mentioned as experienced on first entering the bath, in being more intense and in being permanent, no attempt at reaction taking place but the depression deepening continuously. The onset of the second depression period may be delayed by muscular exertion and by friction of the body and extremities, but the delay obtained is comparatively brief, and once the system becomes depressed to a certain degree, the most energetic efforts to resist its further progress are ineffectual.

The cold bath acts as a diuretic though this effect is but temporary; to use though the bladder be emptied before entering it, there is almost invariably a desire to pass water again on leaving, whilst the amount passed within the first four hours after the bath is considerably greater than at any other corresponding period of the day. After this the secretion becomes diminished, so that the amount
of urine be secreted in the 24 hours, is somewhat below the normal. The effect of a course of cold baths on the bowels is variable; in the majority of instances there is a pain in tone and strength and the bowels act regularly and comfortably; occasionally constipation occurs, but usually eases off in a few days, without causing much trouble; in some cases there is a slight amount of diarrhea and when this is present, the frequency and duration of the baths should be decreased, until the system has gained in strength and vigor.

When the patient leaves the bath, his condition should be observed, if reaction be still maintained or if only slight chilliness is complained of, vigorous rubbing with flesh gloves for three to five minutes will suffice to complete the tonic and clearing effects of the bath. If, however, it is found that the second and period of
depression has supervened, a sheet wrung out of water at a temperature of 600°F should be wrapped round the body, which should be rubbed vigorously with the hands, outside the sheet, for two or three minutes; the sheet should then be removed, and the flesh plores used, until a satisfactory sense of comfort and warmth is produced. After a cold bath has been taken, the patient should dress quickly, drink a glass of milk, and take exercise in the open air, caution being observed to avoid fatigue; so that if weakly a short ride or drive should be substituted in place of the usual walk. The great aim of the physician in prescribing the cold bath should be to obtain the maximum of its tonic and stimulating effect, and, in endeavouring to attain this, the chief points to be considered are: — the temperature of the water; — the duration of its continuance; — the time of
its administration. The consideration of these must be determined by the condition of the patient, attention being more particularly directed to the action of the heart, and the state of the circulation. If the bodily powers are at a low ebb of the circulation, the feeble the standard of cold resistance will be. Correspondingly low, in this case, therefore, the temperature of the bath should be raised to a point which may be considered coincident with the functional energy of resistance to cold. Speaking generally, a temperature of 70° F will be quite safe to commence with, though in the case of the very delicate, it may perhaps be advisable to begin with 80° F; as the system gains tone, and the circulation strengthens, the temperature of succeeding baths should be gradually reduced, never, however, being allowed below 50° F, which may be...
regarded as very cold... In less weakly cases the bath may be prescribed at a temperature of 60°F at the outset, being reduced below this at the discretion of the physician.

The duration of the bath is a question of considerable importance; it should be terminated when the period of reaction, and systemic excitement, is at its greatest intensity; in order to effect this attention must be paid to the temperature of the water, and the physical condition of the individual. The lower the temperature, the more depressed the functional energy, the shorter must be the time allowed for the continuation of the bath.

The time selected for its administration should be that period of the day when the system may be considered to be at its maximum of vitality. The most favourable time generally is in the early morning before breakfast, providing that...
a good night's rest has been secured, if this has not been the case, the bath should be postponed until later, a suitable time between breakfast and dinner being then chosen. It must not however be forgotten that before breakfast as food has been taken for several hours, and the body is in need of nourishment, if debility be present the administration of the bath at this time involves too severe a strain on the physiological powers, a glass of milk and a biscuit should therefore be taken an hour before rising. If it be considered more prudent to postpone the bath until after breakfast a sufficient interval must be allowed to elapse for this meal to be digested, as, if a cold bath be administered before this process is completed it is apt to arrest it, owing to the nervous influence on the stomach, transmitted from the nerve
Centres caused by the shock on entering the water.

The temperature of the tepid bath ranges from 70°F to 90°F. With the water at a temperature between 90°F to 80°F, its effects are those of a modified cold bath, slightly tonic and stimulant. The periods of depression and reaction are both lessened in their intensity, and the variation of the pulse, temperature, and respiration, are less marked. It is, in consequence, adapted as a substitute for the cold bath in the nervous and delicate, to which it may also serve as a preparatory to the course of cold bathing in such cases being commenced at 80°F, as has been already mentioned. When the tepid bath is administered at a temperature between 80°F and 90°F, its influence on the system approaches more to that of the warm bath, though it still retains some slight
trace of the effects of the cold. The surface temperature on entering the bath is lowered one or two degrees, whilst the rectal and oral temperatures show only the slightest elevation; the frequency of the pulse and respiration is somewhat accelerated at first, but this is only transient, and it falls in a few minutes to the normal. The general effect is both soothing and refreshing, depressing unduly excited action, and exciting unduly depressed action.

The warm bath is eminently sedative, it is also analgetic, and emollient, according to the feelings and the requirements of the system. The surface and internal temperatures are comparatively unaffected, the pulse and respiration are at the outset quickened, but as the sedative influence of the bath manifests itself, the contrary effect is produced, their frequency becoming below the normal. The skin becomes
Soften and relaxed, the superficial capillaries dilate, there is a determination of blood to the surface, and internal congestion are relieved. The system becomes soothed, the mind calm and composed, nervous irritation or excitement is subdued, fatigue dispelled, and muscular or joint stiffness is relieved, whilst on leaving the bath there is a delightful sense of comfort and well being.

The hot bath (100° to 110°) approaches closely to the warm bath; in proportion however as the temperature is increased above 105° it has a disturbing and exciting influence on the system. The heart commences to throat violently, the pulsation in the carotid becomes markedly visible, and the force and frequency of the pulse correspondingly increased. The respiration is quick but embarrassed, the surface
and, afterward, the rectal and oral temperatures are raised, rising to 103° or even 104°. The skin becomes swollen and intensely red, owing to the congestion of the superficial capillaries, the face presents a turgescent appearance, the eyes are bloodshot—there is a sensation of beating in the head, noises in the ears and a vague feeling of oppression and anxiety. After a few minutes, the diaphoretic effect of the bath shows itself, and the skin, hitherto dry, becomes moist. This provokes considerable relief and the unpleasant symptoms subside somewhat, but if the bath be prolonged, the action of the heart begins to be depressed, the pulse quick and feeble, and faintness supervenes. The influence of the hot bath on the processes of tissue change is to check them, being, as might be expected, the directly opposite effect to that of the cold bath which, as has been
shown, increases tissue change.

The vapour bath. It is unnecessary to enter into the various methods adopted for the preparation of a vapour bath, they all aim at the same end, the induction of free perspiration, upon which the physiological and therapeutic effects of the bath depend. Its influence on the pulse, temperature, skin, respiration and the economy generally, is very similar to that of the hot bath. The profuse perspiration which breaks out opens the pores of the skin, eliminating noxious and effete matter from the blood, lessening its amount by the evaporation of its water, thus relieving the system and any internal congestion which may exist without the debilitating effect of blood letting. The duration of the bath must be determined by the freedom of the perspiration, the sensations experienced by
the patient and his condition, the nature of the ailment for which it has been prescribed and the effect that it is desired to produce. The frequency of administration can be decided by convenience and the necessities of the case, providing always that a sufficient period be allowed for the complete digestion of the previous meal. The vapour bath should be terminated, unless the character of the case forbid it, by free showering or dousing of the body with cold or tepid water; a cold plunge may even be taken by the patient with advantage. The result, intended by the sweating process, having been attained, the shock of the cold water on the warm, relaxed, perspiring skin strongly stimulates the system and the tonic and invigorating effects of the cold bath are produced. The patient feels refreshed and invigorated and by this means the vapour bath may be
repeated as frequently as may be necessarv, not only without
detriment, but with manifest benefit. whereas, if it proceeded
as further than the production of sweating its repetition
would cause depression and
weakness.
The influence of a course of
bathes on the secretion
of the kidneys is to diminish
the amount of urine passed
but to increase its specific
gravity: this is what would
be exhibited from the increased
activity of the skin which
is set up. The weight is
decreased; one or two pounds
may even be lost as the
result of the diaphoresis excited
by a single bath, the loss is
most marked as a matter of
course, in those debilitated to
cohuseness; this diminution
in weight is however compensated
for, when the bath is followed
by cold refreshing, as indicated,
by a gain in muscular power
and tone. Should faintness
occur during the progress of
the bath cold shampoo of the neck and spine will act promptly as a restorative.

The Russian bath can be a feast of heat and equality, having been largely used by the Romans during the Empire for the relief of disease and the maintenance of health. Whilst it has been in use amongst the Russians and Turks for many centuries. In the Russian bath, the patient enters a chamber filled with steam. In this way the head is included, whereas in the English method, it is excluded. From the operation of the bath, the determination of blood to the skin is also increased by switching the body with the "brik", a modification of the birch rod familiar to school boys composed of birch twigs with the leaves left on them. The Russians in the country districts will not uncommonly conclude their bath by rolling to naked in the snow; this seems rather "heroic" but it
in reality but little more
shock than the cold douche,
replung, with which the
English bath is frequently
terminated. Various tribes
of North American Indians have
long been in the habit of treating
diseases, principally the result
of inhaling, or wounds, by the
aid of the vapour bath.
The patient is placed in a small
hut, which is closely boarded
with skins, so as to be almost
air-tight; a number of stones
made red hot are heaped on
the floor, and water poured
over them; the door being
closed, the hut becomes densely
filled with steam; in a few
minutes the patient is in a
profuse perspiration and
semi-suffocated; he is then
removed, and plunged
into a stream or in water,
in the snow. Many recover
in spite of the treatment, the
terrible mortality which attend
epidemics of measles or small-
pox among the Indians must,
I think, however, be ascribed in
great fear to this custom. It is also considered somewhat surprising the tolerance with which the system bears the shock and sudden check to the perspiration caused by the application of cold water after the hour bath and cold bath. Both this and the Turkish bath, owe much of their efficacy to the cold douche or plunge which they are followed. At first sight, this would seem liable to be attended with the most disastrous results for the danger incurred by being exposed to cold while the skin is warm and perspiring is a matter of tradition; the risk run in this way has often been probably overestimated for when the vitality of the system is being well maintained the cold bath or douche can be taken though the skin be warm or even heated and perspiring, its tonic and stimulating effect then more than usually invigorating the sudden check to the perspiration involving no risk but only giving rise to the more vigorous reaction.
but in those cases in which
the bodily strength is exhausted,
when the condition of the system
is one of debility, the functional
energies are too reduced to
resist the shock and depression
caused by cold, and congestion
and inflammation of the viscera
is apt to take place.
The firemen on the North Sea
or the Atlantic steamers will
come on deck clad only in shirt
and trousers, with bare arms
and chest, hot and sultry,
and stand exposed to the
fiercely cold N. North Easterly
winds to cool themselves,
descending again to their duty.
There have been no bad consequences
from this practice; the men
themselves ascribe their immunity
to their work at the furnaces
"burning out the chill" which
they may have put by refrigerating
themselves in this manner, and
it is noticeable that, when their
watch is over, they are more
careful to protect themselves
from cold.
The explanation of the freedom
From injurious results which attend the use of cold water after the vapour bath, it is to be found in the fact that the heat of the bath stimulates and excites the system and raises considerably the body temperature, and this gives the individual a largely increased power of cold resistance, the heightened blood-heat, "eating up," so to speak, the cold before it depresses the system.

The "douche" bath is generally used with cold water, and is a most powerful tonic and stimulant. The forcible impact of the water on the body, falling from a height, or under pressure, causes considerable shock, the impression on the circulation is strongly marked, not only the superficial capillaries, but the deeper vessels are constricted, while the reaction is, in consequence, fortunately pleasanter and the invigorating influence more decided, than is the case with the general cold bath. The application
of the douche can be confined to any particular part of the body that may be desired, this being termed the local douche, one of the most useful modes of obtaining the therapeutic effects of water over a confined surface.

Various modifications of the general bath are made by applying water only to parts of the body, such as the foot or knee bath, the spinal or shallow bath, in which the patient lies on his back in one or two inches of water, the foot bath, the leg bath, and head bathing. While modifications of the douche are made by the use of the sponge, the shower, and the horizontal rain bath, these again may be used locally to various regions of the body, as desired. Diffusion consists in pouring water freely over the head; both hot and cold diffusion are of great value in relieving
head symptoms.
Many other procedures are
adopted for the therapeutic
use of water, foremost amongst
these are "packets", whole and
partial, compresses and
fomentations, these need only
to be mentioned here.
With reference to the modifications
of the douche and general
baths named, it is sufficient
to say that water applied
at varying temperatures only
to parts of the body produces
the same effect, on the respective
part of the body, as it does
on the entire body when applied
in the same way. and at the
same temperature, to the whole
surface.

I would now propose to
describe, more in detail the
use of water as a therapeutic
agent in the treatment of
disease, in aid of, but
not in place of, the ordinary
medical treatment.
Commencing with some of the
morbid condition included.
Under general pathology, I have found the application of ice or cold water of great service in active congestion. The constriction of the blood vessels caused by the use of cold effectually lessens the amount of blood in the heart and this result is produced promptly, thus affording time for the action of other remedies. Hot water is also useful in these cases, applied to distant parts towards which a determination of blood is induced, thus relieving congestion elsewhere. In poisoning the knot, the blanket bath— a modification of the hot bath— or the tub bath are invaluable. Should the patient's state not admit of a general bath, it may be applied only to the more swollen parts. These baths are of the greatest service in local dropsy, but I have found them of much benefit in cardiac dropsy, even of an advanced type, they are not
In my experience, as useful a "cure-cure" in dropsy, due to general debility and anemia, they are contra indicated and would be harmful. The object aimed at by the use of these baths is to lessen the dropsy and, in the case of renal disease, to mitigate the deleterious effects on the system produced by the non-elimination of poisonous and effete matters from the blood, owing to the deficient action of the kidneys. Care must be taken not to repeat the baths too frequently or to continue them unduly beyond the patient's strength. Otherwise, already existing weakness is increased and the anemic condition of the blood, which, in kidney disease, is a prominent factor in producing the dropsy, is augmented and, in this case, although a temporary diminution of the dropsy may be obtained, its speedy return is increased volume.

In my own practice, I rarely make use of the hot baths in
Arthritic cases as the case on the patient's strength is much greater, and its diaphoretic effect much less, than the vapours, or the blanket, both of the dropsy be relieved, but the coldia or renal mischief still be present, it is a wise precaution for an occasional diaphoretic bath to be taken. In this instance the hot bath is perhaps the best as being the pleasantest and most safely available.

The use of ice or cold water is invaluable in the treatment of hemorhage. In hemophilia ice should be sucked constantly and ice bags or cloths wrung out. A cold water, applied to the cheeks, being removed by degrees as the hemophilic subsides; the same, a treatment applicable in hematemesis, the external applications being, however, made over the epigastrium. In acute attacks of hemophilia a cold sitz bath frequented serves to check it; in severe
Cases when the feet tend to strengthen permits of if, a warm sitting bath at 98° should be given for fifteen to thirty minutes, the cold application to the chest and the sucking of ice being continued at the same time. Epistaxis is best treated by the ice-cake applied to the head, or by wrapping the head in a towel wrung out of cold water. Cold bathing or affusion is also useful, should these prove insufficient; the addition of applications of ice, or cold affusion, to the spine, and the use of the hot foot bath will usually suffice to arrest the most obstinate attacks. Ifterine hemorrhage may be checked by filling ice into the vagina or uterus and applying it externally over the tubes. Injections of ice-cold water are also serviceable and easily managed. Instances have been recorded in which uncontrollable flooding was promptly stopped by pouring...
Cold water from a height, out of a jug, or to the abdomen.

This freezing would have the disadvantage of seriously disturbing the patient's comfort, saturating the bed and bed-linen, and should only be tried as a last resource. I have fortunately never had occasion to adopt so extreme a measure, so have no experience of its effects. But I can readily understand that the powerful shock and stimulation caused by the impact of the cold water over the uterus, would have considerable influence in causing it to contract. The internal and external application of cold to the uterus arrests haemorrhage by setting up uterine contraction and constricting its vessels; water injected into the uterus at 112° will also arrest haemorrhage from this organ; in this case the hot water probably acts as a uterine stimulant and contraction taking place, the flow is checked. Uterine injection of hot or cold water
also act as stimuli to the general system.

In inflammation ice or cold water, applied in various ways, is of great service in subduing the increased vascular action. It is more particularly indicated when the inflammatory process is in its first stage, when it is superficial or affects structures near the surface. The spongy bath is useful in some cases, in relieving arterial tension, and in eliminating effete material from the blood. Heat and moisture are old established aids to the treatment of inflammation, the use of hot water supplies both, if ably by determining the blood to the surface and thus relieving deeper seats. It is also useful in superficial inflammation by softening and releasing the tissues, lessening pain, and favoring either resolution or suppuration, according to the tendency of the case.
The good results to be obtained in the treatment of fever by the application of cold are most marked. Many of the phenomena of the febrile state, if it is well known, are due to the increased production of heat, the rise in temperature being attended with depression or abolition of function, and excessive activity of the processes of tissue change, principally in the direction of tissue destruction. The degeneration of the voluntary muscles is particularly apt to occur, and the same change takes place in the heart, kidneys, liver, and blood vessels. The effects of cold are to lower the existing temperature, and to prevent heat production and, in this way, to avert the depression of function and the degenerative changes mentioned. The temperature is lowered by the abstraction of heat. The body gives up some of its heat to the cold application which becomes warm and, by changing these as this occurs,
the elimination of heat can be carried on to a considerable extent. A case of hyperpyrexia, put into a cold bath to lower the temperature is analogous to putting a piece of heated metal into cold water to cool it and the cooling process is the same in both instances, as far as the mere abstraction of heat goes, but the continual heat production, which goes on in the body, prevents the total abstraction of heat which takes place in the metal. If the application of cold water and ice be carried out sufficiently, heat abstraction take place more rapidly than heat production and the temperature becomes lowered. The rate at which this occurs depends, principally, upon the degree of cold and the extent to which it is applied; the greater the cold, and the larger the surface to which it is applied, the more increased is the amount and rapidity of heat loss. The effect of cold
does not however stop here: the temperature is not only depressed whilst the body is under its influence, but continues to fall for nearly an hour afterwards, sometimes as much as five, or even six, degrees. It also remains lowered for some considerable period after, not regaining its former heights for three or seven hours; in many instances the influence of a simple application of cold is most salutary, the temperature not rising again sufficiently to necessitate its repetition. The excess of heat abstraction over heat production may account for the fall in temperature at during the time that cold is applied, if does not however account for its after effect. The explanation of this is a matter of more difficulty. It is generally considered that the action of cold is to diminish heat production by checking the excitative tissue metemorphosis.
which occurs in pyrexia, and is supposed to be the chief source of the increased heat. It is difficult to reconcile this with the effect of cold on the system in the non-febrile state, or when it increases tissue change and oxidation, the disintegration of tissue being, however, met by increased tissue construction, the result of improved appetite and assimilation but it cannot be said that appetite and assimilation are improved by the use of cold in pyrexia so that, if the foregoing theory as to the source of heat production in febrile conditions be correct, it would be natural to expect that, as the influence of cold at the normal temperature of the body is to heighten tissue destruction, its use in fever would raise, rather than depress, the production of heat which is opposed to clinical fact.

In considering this question Dr. Beale's theory of heat causation
in pyrexia is of considerable importance. He holds that
the oxidation of tissue in the
febrile state is insufficient, that
this causes the blood to become
loaded with deleterious products
which the excretory organs
are unable to remove, and
that in this manner the blood
state becomes favorable to
the growth of bioflaven.
that, as a result, the bioflaven
of the blood, bloodvessels and
tissues is greatly increased
and that this excessive growth
of bioflaven is the cause of
the increased heat.

Isbell points out ("Isbell on
short ailments"), in proof of this
assertion, that oxidation in
pyrexia is deficient instead
of being in excess, as stated
by most pathologists, that in
various morbid conditions, in
which the temperature rises
considerably beyond the
normal, the process of oxidation
is much interfered with; such
as in a case of pneumonia in
which one lung is consolidated,
The air cells being filled with solid matter, the entrance of air is rendered less constant, and its renewal impossible. He asks if it is not unreasonable to suppose that oxidation is going on to a greater extent, or is more complete than in health, and yet the elevation of temperature in pneumonia is generally stated to be due to increased oxidation and that alone. Again, the body from of a person who dies from hyperpyrexia in acute rheumatism can hardly be considered to be in a state favourable to free oxidation, nevertheless the temperature which, before death, may have risen to 104° or 105° often continues to rise two or three degrees during the first hour or two after death. How then can this rise in temperature be attributed to increased oxidation? Not only does the rise continue for some time after heart and lungs have ceased to
act. But the condition of the system for some hours, or even, previous to death, had been most unfavorable to the introduction, distribution, and absorption of air. If we accept Dr. Beale's views, the influence of cold in causing the temperature to continue falling after its rise and to remain lowered for a considerable period, would become intelligible. Tissue oxidation being increased by cold, the growth of bioplasm and, resulting heat production, would be checked and the temperature consequently depressed, remaining so until such time as the effect of the cold wears off when the oxidation of tissue begins again to be deficient, the growth of bioplasm commences once more and the process of heat production is resumed.

The influence of the nervous system is, no doubt, an important factor in pyrexia.
Many pathologists believe that the nervous system is directly associated in the development of fever, the pneumo-cebitic, sympathectic, or some of the nerve centres being more particularly concerned in this. It has been often stated that there are distinct thermal nerve centres and nerves.

My own experience would lead me to believe that the feverish state is in some instances, originated in the nerve centres, the disturbance of the nervous equilibrium, which causes this fever either idiopathic or due to some poisonous products in the blood acting either directly on the nerve centres or reflexly through the vasomotor apparatus, and I think clinical observation gives fairly conclusive evidence in favour of the causation of fever in some cases, by reflex irritation through the nerve centres from a local lesion.
The nervous system regulates heat distribution through the body's motor nerves, but, beside this, it affects heat production through the controlling power of which recent observations have shown. It to have over tissue change and modulation; the loss of this influence being illustrated in hyperpyrexia. Broadbent thinks that the mode in which the nervous system acts in controlling tissue change may be represented as being through the tension maintained in the nerve centres. All nervous actions have the character of phenomena of tension, and the tension generated in the cells is sustained in the nerve fibres to their peripheral terminations, where they become merged in the structures and as blended with them that all nutritive and oxidative changes are common to the nerve endings and the structure in which they end.
the great nerve centres, their
power of maintaining tension is
lost, and their influence
destroyed; the affinities of the
blood and tissues, having un-
restricted play and the
result is hyper-oxidation and
hyperm. When, on the other
hand, leprous matter or other
noxious substances are intro-
duced into the blood acting as ferments,
or in some other way, they
increase oxidation and directly
raise the temperature, over-
throwing the restraining influence
of the nerves until this is
reinforced. We can,
therefore, find another
explanation of the effect
of cold in diminishing hypermia
by supposing that whilst the
increased heat discharge
which goes on during its
application would account
for the temperature, falling at
the time, its after effect, in
causing the temperature to
continue falling and to
remain depressed for a
comparatively prolonged period.
would be explained by the tension of the nerve centres, and nerves being temporarily restored by its use.

The influence of cold, in the disturbances of the nervous system, which occur during the course of hysteria, is very distinct; it gives marked relief in nervous restlessness, excitement, in delirium, insomnia, in stupor or coma, and in all low nervous symptoms generally. The frequency of pulse and respiration are diminished; the heart pain in strength; the patient is refreshed and comforted; appetite, digestion, assimilation, and consequently, nutrition, are improved; complications averted, and the whole length of the illness shortened by the judicious use of cold.

The methods of application of cold in the treatment of hysteria require to be adapted to the condition and circumstances of the patient.
The general cold bath (56° or 60°), with cold douching and affusion, as recommended by most Continental authorities, seems in my opinion, too drastic for general adoption in private practice in England, and that its use not unattended with risk. The most that can be done in this direction to place the patient in a warm bath at 96°, gradually running off the warm water and replacing it by cold, but that this is rarely practicable in the present state of medical opinion. Removing a patient from bed two or three times a day to place him in a bath for fifteen to thirty minutes is liable to exhaust him, and the whole proceeding is opposed to the general sentiment. In ordinary practice, therefore, it is best to confine the application of cold to such methods as can be applied without taking the patient from bed and can be used with little trouble.
There is usually no demand for bathing, save by the patient or friends, to those, and their effects are, in most cases, all that is required; speaking broadly, the more slowly the case, the more energetic must be the hydro-therapeutic treatment. In slight fever, soaking the skin with water at 70° or 80° several times a day, is all that is necessary; only a hard of the body should be soaked at a time, and should then be gently dried and put back under the bedclothes before proceeding further. If the temperature rises above 102°, the water used should be 50° or 60°, and an ice bag applied to the head; if above 103°, in addition to the cold soaking, compresses wrung out of cold water should be applied to the chest and abdomen; if the rise continues above 104°, ice bags should be employed instead of the compresses, not omitting the application of the ice bag to the head.
A water pillow filled with ice-cold water is most grateful and pleasant and, if means will admit of it; a water bed is a great comfort and a material aid in the treatment. The use of the cold wet sheet or in children, a large wet towel is an excellent and most beneficial application and gives comparatively little trouble or fatigue. Two blankets are spread on a mattress and over these a sheet being thoroughly out of cold water (60° or 70°), on this the patient is laid, naked, and then the sheet and blanket are wrapped well round him and tucked in. The head only remaining exposed. Two or three blankets are then thrown over the whole, being tucked in closely or left loose at discretion, according to the case, and the wetten is allowed to remain in this way from half an hour to an hour. This procedure, besides reducing
the temperature, is very serviceable
in the exanthematous in developing
the rash, and has the additional
advantage of being very soothing
in its effect upon the patient,
often producing most calm
and refreshing sleep.

When the development of the
rash is of secondary importance,
as in Typhoid, or Rheumatic
fever, and the reduction of
the temperature is a primary
consideration, the patient
should be wrapped in the
wet sheet alone, a simple
blanket being loosely thrown
over him; in more severe
and extreme cases even this
should be omitted, and he
should be left without a
covering, the sheet being
sprinkled occasionally with
cold water.

When the condition is one of
hyperpyrexia, the question
as to the use of the cold bath
with cold douching or affusion
should be considered. The
matter should be explained
to the patient's friends and their
Consent obtained since, as cases of this kind are very apt to terminate fatally, unless the physician employ discretion both in the treatment and himself will most certainly incur opprobrium in the total of a fatal issue. If the friends accede to the proposal, the patient should be placed in water in a city bath and water at 50° poured over him for ten to twenty minutes. It is less exhausting to the patient, and less distressing to his friends, to employ a general cold bath at 40° in which the patient may be allowed to rest quietly for the same period; an ice belt being applied to the head especially if there is a tendency to delirium. The use of the cold douche or affusion should be determined by the state of the nervous system; the presence of stupor or coma would be an indication for its use but if nervous restlessness, irritability or irritability, or insomnia be present it is generally contraindicated.
The repetition of these various applications must be determined by the state of the pulse, the temperature, and the general condition. It must be remembered that the temperature continues to fall for some time after cold has been applied so that, if its use be persevered in for too long at a time, collapse may be produced. Should this occur, warm fomentations should be freely used to combat it, being placed at the feet and sides; this is, as a rule, all that is required, the collapse in itself not being usually of a serious character.

The use of steam is of the highest value in such cases, and should in thiship be adopted when there is the slightest suspicion of the larynx becoming implicated. It is an invariable rule to keep the air of the patient's room warm and moist from the first, by means of a bronchitis kettle, and should
The symptoms prove severe, to conduct the steam from the kettle through an india-rubber tube into a tent made by stretching blankets across a cord suspended over the bed. Ice should be given freely to suck; it is most grateful to the patient and is, I think, distinctly beneficial in its local influence on the throat, it also serves, by diluting the urine and flushing the urinary tubes, to lessen the tendency to renal complications. Cold compresses round the throat are very useful, being more cleanly, comfortable and easier to apply, than poultices, for which they form an efficient substitute.

Fomentations of hot water constitute the most serviceable local applications in nodes and other glandular swellings generally, when accomplished with much hair tension, and redness, but when the
Condition is less acute the best results are obtained by bathing the child several times daily with cold water and applying cold compresses. A cold bath at 40° once or twice daily to be followed by exercise and the occasional use of the above bath are serviceable adjuncts to the general treatment. Should delirium occur in the course of an attack of whooping cough, application of ice will be found to allay the pain and inflammation. Cold wet cloths should be used after the ice is discontinued.

The duration of the second and third stages of whooping cough may be lessened, and their severity mitigated, by causing the child to wear a chest compress, formed of oiled silk, or soft towelling wrung out of cold water, and having at the back flannel or oil silk. The compress should be renewed three or four times daily.

He was every morning of a
Cold sponge bath is indicated on account of its tonic properties. The cold sitz bath at 40° is also beneficial, having a derivative action, and producing a kind of inhibitory influence on the disease. If the symptoms of cough are severe and exhausting, a warm bath should be given; it will be found both soothing and refreshing.

Inhalations of steam relieve the coryzaeal symptoms in influenza. Beating the head with hot water (110°) or hot affusion (100°), and hot foot baths, are of great benefit in relieving the headache, and the distressing pain across the forehead from implication of the frontal sinuses, which frequently cause so much discomfort in this disease. The aching and pain about the body and limbs and sense of chilliness, so often experienced, are best relieved by the hot or scalding bath. If agitation proves high, cold sponging of
the body is serviceable in diminishing
if, and delirium should be treated
by the application of the ice cal.
Fusing ice puts great relief
in the nausea, vomiting, and thirst
of the post-interior catarrh.
During convalescence from hooping
cough, the cold olive bath is
extremely useful in restoring
the tone of the system.

I have had no experience of
the treatment of hyperpyrexia
in acute rheumatism. In the
Cold bath; in other cases
there seems conclusive evidence
that it affords the only
prospect of averting a fatal
result. In ordinary cases
of acute rheumatism, would
strongly recommend pouring
the body with cold water;
(60° to 70°) This is most refreshing,
lessening the fever, and relieving
the unpleasantness of the sud-
perstiration. A cold compress,
attached over the chest, diminishes
the frequency and tensity of
the heart's action, and lessens
the tendency to cardiac inflammation.
Cold compresses to the affected joints are most valuable applications, and prove of signal service in relieving pain and inflammation. The ease they afford is most satisfactory, and gratefully acknowledged by patients. I find them more useful than warm fomentations or poultices; in fact I consider them the best local application for the joints in both acute and chronic rheumatism, and well worthy of more extended use.

hot or cool, the or the blanket bath are valuable adjuncts to the general treatment in chronic articular rheumatism, doing much to relieve pain and stiffness. Soaking with cold water, and the wearing of cold compresses, will be found highly beneficial as applications to painful and stiffened joints. Packing with the wet sheet will also be found to act like a charm in removing rheumatic pain and stiffness.
The daily use of the cold orange salt, or the application, round the body, of a sheet, wrung out of cold water, for one or two minutes, with vigorous rubbing outside the sheet by patient and attendant with their hands, followed in both instances by friction with flesh gloves, until the skin is warm and red, will be found a distinct aid either to the prophylactic or curative treatment of rheumatism.

In acute muscular rheumatism, lacking the affected muscles with flannels or towels, wrung out of hot water (110°), and covered with dry flannel and macintosh, usually proves considerable ease. The general hot bath is also of service whilst exciting free diaphoresis by means of the blanket or before bath frequently effects a radical cure. In Cephalodynia I would recommend bathing the head with hot water, (110°) or hot affusion, (100°) as frequently
as may be required to afford relief. Similar measures to those indicated as being serviceable in chronic arthritis, will be found useful in chronic muscular rheumatism. Cold douching of the affected muscles, with the use of cold compresses, will be found most beneficial; decided benefit being derived if this treatment is persevered with. These measures, regularly and persistently applied to the enlarged and stiffened joints in rheumatoid arthritis, with careful freedom of movement, will be found to produce results above the average, compared with other forms of local treatment.

Warm and 1-hour baths are of advantage in most, the latter being especially indicated while there is any tendency to suppression. Steaming the inflamed joints, or soaking them with flannel, wrung out of hot water, etc.
omentation of hot water, do considerably good, but in the majority of cases, I prefer the use of cold compresses which rarely fail to give complete satisfaction, lessening both pain and inflammation. A cold compress, worn over the stomach or heart, will also be found valuable in averting,part mischief in these organs, or relieving the symptoms should it already exist. Most patients are decidedly benefited by drinking water freely and systematically, not only during an attack, but during the intervals. There is no doubt that the use of water internally and externally in four days is much not only to lessen the frequency of attacks but to diminish their severity; should they occur, excellent results have been the only therapeutic agent employed in treatment.
A case of Puerpera under my care experienced real benefit from the use of cold water enemas; similar application gave much relief in the acute forms of Puerperia, when accompanied with congestion of the skin.

The question of allaying thirst is always one of importance in the treatment of diabetes. I found believed that tepid water relieved thirst in this disease better than cold; I am in favour myself of cold water or ice, and allow the patient to suck small pieces of ice, or to sip cold water as being more grateful to the dry, clammy parched condition of the mouth, and giving equal relief to the thirst, with less consumption of liquid, than with the use of tepid water. A cold sponge bath, or the general cold bath every morning, assists materially in giving tone to diabetics. Their use
must be conducted with caution, particular care being taken to ensure thorough reaction after them. I have found this morning bath much appreciated, patients expressing themselves as feeling strengthened and braced by its use and anxious to resume it when from any cause it has been discontinued for a time. It is, of course, contra-indicated in advanced stages of the disease. A warm or vaour bath, two or three times a week, adds materially in maintaining the action of the skin and encouraging elimination of deleterious products from the blood.

 Inhalation of steam holds an important position in the treatment of acute inflammatory affections of the throat. The temperature of the water for this purpose,
should be not lower than 130° or over 150°. This is a matter of some importance to impress upon the patients, as, if left to themselves, they will probably use boiling water, or water nearly at the boiling point. The steam from this is much too hot for the inflamed and sensitive mucous membrane of the throat, and the inhalation causes suffering, in place of affording relief, and is in consequence either discontinued, or repeated at a temperature too low to be of service. Instruction should also be given how to inhale; inspiration being performed through the mouth and expiration through the nose. The frequency with which the inhalation should be repeated should receive attention; in severe inflammatory affections it is well to repeat them every hour; in cases of less severity two hours
interval, or longer, may be left between them. Time to seven minutes is usually a sufficient time for the continuance of each inhalation; if more prolonged it is apt to be exhausting. Maintaining a warm and moist atmosphere round the patient is frequently advisable in throat cases of an acute character and has a favourable influence on the progress of the inflammation. This can readily be done by dripping steam through the room by means of a bronchitis kettle. I have the highest opinion of the good effected by the use of both compresses in nearly all forms of sore throat. In many cases, used at the commencement of the attack, it is all that is necessary to check it; in cases of greater severity can be arrested by their early, continuous, and frequent application, more especially
if combined with free sucking of ice. Then however the disease runs its course the use of Cold Compresses should by no means be discontinued as they have a most beneficial effect in mitigating the heat, pain, and inflammation, and have the advantage of being much more comfortable to the patient, and much less trouble to the nurse, than the application of fomentes. Ice is, I think, not sufficiently employed in the treatment of acute inflammation of the Throat or tonsils. It should be broken into small lumps, the size of the top of the thumb, and placed in a saucepan at the bedside, the patient being encouraged to suck it freely, and care being taken to maintain the supply. The use of ice in this manner is most grateful and comforting, not only does it relieve the hot and painful sensations.
in the throat, but it diminishes the excessive secretion of mucus, which is the cause of so much distress owing to the continual hawking and swallowing it presents gives rise to.

In many grave cases of throat mischief, more particularly in those occurring occasionally in scarlatina, the free sucking of ice has seemed to me the direct means of averting what otherwise promised to be a fatal issue, whilst its use in this way can always be depended upon to mitigate the severity of the inflammatory process in acute affection of the throat, and to lessen edema should it happen to be present. The hot salt bath may be used with advantage in tonsillitis, and other inflammatory disorders of the throat, its action is that of a derivative to the local affection.

Such food may be done in ulcerations of the throat.
by the use of ice and cold compresses, both of which, in suitable cases, will be found most valuable and to treatment. 

Droserous from the mouth, nose, or throat can generally be successfully controlled by directing the patient to suck ice until the bleeding ceases. Delicate and susceptible throats may be properly strengthened by frequent gargling with cold water and cold bathing, or douching, of the neck and throat. The daily use of the cold dill bath followed by exercise is also serviceable in diminishing the tendency to sore throat, and considerable benefit may be effected in chronic affections by the means. Conjoined with the cold douching and gargling mentioned above, ice is the only remedy of any value in acute Rhophagitis, it should be given to suck constantly and applied externally.
to the neck and throat.

A warm bath, with free cold affusion over the head and shoulders, whilst in the bath, or baking tongs, wrung out of cold water, against the chest, will be found amongst the most serviceable aids to the treatment of dyspepsia, due to excess of stomach indigestion to the entrance of air through the air passages or interference with the muscular irritability of the viscera, to induce conditions of the air, poisonous condition of the blood, or to various forms of nervous disturbance.

The foot bath, or putting the feet into hot water, before going to bed are time-honoured institutions in the domestic treatment of catarrh and cataract. Bathing the head with hot water or hot affusion, frequently affords much relief in the former. A bake-oven or
Blanket bath, taken at the commencement of a cold, will often suffice to cut it short, whilst a cold compress worn over the chest has a remarkable efficiency in relieving the symptoms of catarrah and shortening its duration.

The various measures indicated as useful in acute inflammation of the throat are also very valuable in croup and other forms of acute laryngitis. The air of the room must be kept warm (70°) and moist by means of steam, and inhalations of steam persistently used. Bathing the neck with hot water, or steaming it, is often very serviceable, but I find the application of cold compresses round the throat more generally efficacious. When the attack seems to have resulted from catching cold exciting free diaphoresis at the nose, means of the before blanket, or hot Bath, is very beneficial.
and much good may be done by its judicious application in suitable cases.

In laryngitis, stridulous cold or stamping is of the greatest value; it should be carried out two or three times daily, and rarely fails to give the best results in mitigating the severity of the disease. It also serves to lessen the tendency to convulsions, and to relieve the dyspnoea. When the dyspnoea of croupous cough, cough, and crowing inspiration occur, they may usually be checked by applying cold, water or the face or, should this prove ineffectual, dashing it on to the chest as well.

The prophylactic treatment in children liable to croup consists in cold douching of the throat and chest, or the use of the cold sponge bath, followed by friction with the hand or flesh-stones. These measures are of signal service in warding off attacks and tend to bring
an immunity to the disease; they require however to be repeatedly and perseveringly carried out.

In Acute Bronchitis the sucking of ice is especially indicated. Its use in this affection is invaluable and should never be omitted from the treatment.

Acute Bronchitis requires the free use of steam, as described in treating of Cough and when the attack results from Cold the blanket or bed has Bath may be employed with advantage. In my own practice I usually apply poultices or compresses in preference to the hopes of patients, hem at however thorough I well satisfied that equal benefit can be obtained from the application of Cold Compresses to the Chest and back, made of soft towelling or swansdown, four or five thick wrung out of Cold water and covered with flannel and Macintosh.
Backing with the cold wet sheet can be employed with confidence in chronic bronchitis, as a means of prompt relief to many of the unpleasant sensations experienced in the chest. It will be found to ease the cough and promote expectoration. Cold compresses also prove serviceable in the same way. In those cases of chronic bronchitis in which a generally tonic treatment is indicated, the cold plunge, bath, or cold slapping, or douching of the chest, is productive of great good, and it is of no little value as a prophylactic in those liable to bronchial troubles.

Backing with the wet sheet, or cold slapping of the body, gives much relief in pneumonia, allaying the hot, dry, burning condition of the skin, easing pain and relieving dyspnoea, whilst reducing the temperature.
The application of cold to the chest is also of undoubted value in pneumonia; under its use, in appropriate cases, the lung symptoms improve, and the inflammatory process becomes subdued in a marked manner. Ice has been used for this purpose, but its employment requires considerable caution, and I think it should only be applied when the inflammation is severe, and the temperature dangerously high. If employed it must be discontinued gradually, and followed by the application of cold compresses, which are of themselves especially serviceable, as they can be applied without appreciable risk, providing due care be taken to do this efficiently. They should be large, changed at comparatively short intervals, according to the nature of the case, and applied to the back as well as the chest.
the first one or two compresses may be wrung out of water at 90°F. the temperature of the succeeding ones being gradually reduced to 60°F. Should the patient object to the application of cold a flannel pad, or chiffon-pilain, wrung out of water at 105°F., forms, when covered with flannel and Macintosh, an efficient and cleanly substitute for a poultice; if a counter-potent effect be desired mustard may be dissolved in the water.

An impending attack of Asthma may often be warded off by taking a cold or hot bath, or by means of the 'funk' pack, which consist in wringing a sheet out of hot water (102°F.), folding it in half, and then wrapping it round the patient from the arm pits to the knees, leaving the arms free; he is then rolled up in a blanket, a hot tin placed at his feet.
and a couple of blankets thrown over him and allowed to remain in this manner for about three quarters of an hour to an hour. Should either of these measures prove ineffective, and an attack supervene, hot fomentation hads applied to the chest as described in treating of pneumonia, will be found to afford relief. Inhalation of steam, with cold compresses on the chest, a hot foot-bath, cold water being drunk at the same time, ice, or cold wet cloths to the spine whilst the feet are in hot water, and boiling the hands and arms into water at 105° are amongst the various hydro therapeutic procedures which have been found useful in asthmatic attacks. Like most remedies for asthma they are more of them certain in their effects, some of them give prompt relief in some cases, and some in others, but all are sufficient to excite sufficient efficacies to be worth the trial.
Both coughing or clenching of the chest should be practised, or rising in the mornings, by asthmatic patient as it serves to give tone to the muscular fibres of the bronchial tubes, thus lessening their tendency to asthma which is the most fruitful cause of asthmatic attacks.

Many cases of asthma are benefitted by the stimulating and breathing effect of cold water. Not only is the patient strengthened but he feels in better spirits and improved in appetite. In addition to this cold water is an excellent tonic to the skin and, by strengthening the skin, we lessen the risk of chill which is so frequently provocative of bronchitis, pneumonia or purulency in pathological cases.

Dr. Hermann Weber, in his recent "Cromman Lectures" at the Royal College of Physicians in London, remarks that weakness of the skin is
one of the prominent features in the tendency to下午, or the developed disease, and ought always to be taken into consideration, and remedied if possible. The evidence of the good effect of cold water in remedying this, and creating the names of Kehner, Liger, Schüller, Scheffweiler, and others, among the German, and Jacobid, Lee and others, amongst the French, physicians, as being powerful advocates in favour of hydro-therapeutic procedures as aids to the treatment of the disease. In states of extreme debility rubbing the body, or even only the chest, with a damp towel, followed by dry rubbing, is all that will at first be advisable. In other cases cold douching may be allowed, commencing with water at 95° and gradually reducing the temperature as the patient gains strength. Cold douching, or douching of the chest, seems frequently to ameliorate the lung mischief
In some instances, much benefit results from applying the douche with considerable force against the chest for one or two minutes. Dr. Henry Kendall strongly recommends the use of the cold sponge bath, or rising in the mornings, by asthmatic patients, should this be practised it is often judicious for the patient to return to bed after the bath and have his breakfast before he proceeds to dress.

When a fair amount of strength is present, and reaction good, the cold shower, or general cold bath may be advantageously allowed. Care being taken to watch the effect on the system. After all cold applications and baths, friction with the hand and then with flesh gloves, until the skin is red and warm must on no account be omitted.

In fanning a hot foot, right or left, or baths, heat may be prescribed with benefit.
as soon as the symptoms declare themselves; whilst hot fomentation had, applied to the side every fifteen to thirty minutes, are of service in relieving the pain and when this has subsided, the use of cold compresses will be found to have a most favourable influence on the progress of the disease, both in subsiding the inflammation, and lessening effusion. The use of cold has been commended in pericarditis; it has also been condemned. I am myself much in favour of the application of cold compresses over the cardiac region in pericarditis occurring in the course of acute rheumatism and fever, considering them highly beneficial in such cases, but, in those associated with renal disease, I prefer the use of hot fomentations, as mentioned under Pleurisy.

The use of cold water in the treatment of Syncope.
are too well known to need description, but it may be mentioned that, when the attacks are due to debility, cold sponge baths prove very beneficial in diminishing their frequency.

Cold and tepid sponge baths may be allowed with advantage in many chronic cardiac affections, as in suitable cases, it strengthens the heart's action and gives tone to the system. The physician must however use due discrimination in their selection, otherwise it will prove injurious. But, with proper precautions, it may be made the means of doing much good.

In the treatment of Anemia, and of Rickets, cold sponge baths and douches hold a deservedly high place. Pure, oxidation is increased by their use and the processes of destruction and construction
of tissue excited to greater activity, as mentioned in treating of the Cold Bath. As consequence of this appetite, digestion, and assimilation improve, there is an increase of weight, the system gains in tone and strength, and the way is opened for the good effects of other remedies. Care must be taken in dealing with weakly children and delicate girls, to avoid a application of too severe a nature at first. Attention should be paid to the patient's general condition, and the power of reaction, and the temperature of the water to be used prescribed accordingly.

Applications of ice, or Cold Compresses, are of decided value in the treatment of all forms of Peritonitis. They put ease to the pain, and have a marked influence in subduing the inflammation. Flannels dipped in iced water
and applied at intervals for half an hour were used with great success by Dr. McCall Anderson in Peritonitis, occurring in Acute Pneumonia. Several of these cases recovering under this treatment—used in conjunction with the administration of free supply and stimulation, and of pills containing Iodine, Digitalis, and Aperient.

Crepus or the stomach may frequently be relieved by drinking hot water, but should the history of the case make it probable that the attack was due to the presence of undigested food, or unhealthy secretions, the water should be pure, lukewarm, in order that it may act as an emetic.

Amongst the large number of remedies for the relief of Gastric Trouble, I know of nothing which equals in efficacy the use of Ice. The physician is not
unfrequently succeeded to find that the very remedy he
prescribes to check vomiting are themselves immediately rejected while,
if retained, their action is uncertain, the same
treatment which succeeds in some instances being
useless in others. Before
I was convinced of the
value of ice in sickness,
it was no uncommon experience
to me to find the hypodermic
injections of morphia (administered
by preference in the epigastrium,
the only remedy which could
be relied upon, owing to
the rejection of everything
given by the mouth. I now
treat every case which comes
under my care with ice
and since adopting this
treatment some three or four
years ago, I have never had
occasion to use the morphia
injections in vomiting, except
in one instance, not having
met with any other case
in which ice has failed.
It should be broken into small pieces and given to suck freely and applied in an ice bag over the stomach. The diet should be restricted to iced soda water and milk, and iced champagne, while small quantities of beef juice or essence of beef are administered at regular intervals, a piece of ice being sucked immediately after. So much is the use of ice appreciated by the patients themselves that when occasionally, in my practice, the local supply has run short they have incurred great trouble and expense in procuring it from a distance.

In acute gastritis, the benefits to be derived from the use of ice are equally marked. Small pieces sucked at short intervals give relief to the aching, unpleasant condition of the mouth calling the third, nausea, and vomiting which
they ease the pain and soothe
the irritative and inflammatory.

condition of the lining membrane
of the stomach. The application
of an icebag to the epigastrium
is also of great value in

gastritis, checking the inflammatory
process, and relieving many of
the distressing symptoms.

Constipation may be frequently
relieved by the use of water.

In slight cases, drinking a

glass of cold water on first

rising in the morning is all

that is required to ensure

a regular action of the bowels;

if this prove insufficient a

pint of water should also be

drunk when going to bed

at night. The action of

water as a mild Cathartic,

when taken in this manner,

is probably due to the

fact that many cases

of Constipation are caused

by deficient secretion in

the intestinal Canal, and the

poops consequently become

dry and hard, and their
Progress along the bowel is impeded. When water is drunk it is first absorbed and then eliminated again; this process being repeated as it passes down the intestines stimulation of the intestinal glands takes place, and water is added to the feces. The bowels may be very satisfactorily relieved by an enema of simple warm water, a pint being generally sufficient, but, when no action has taken place for some days, and the bowels are loaded, it becomes necessary to inject two or three pints, which can be readily done providing it be done slowly, pauses being made when there is any feeling of them. The regular use of enemata of warm water in constipation is, however, to be deprecated, as the bowels lose tone under their administration, become more torpid, and the constipation is consequently aggravated.
I have found cold water enemata most serviceable in the treatment of habitual constipation; they not only relieve the bowels but also serve to strengthen them, by giving tone to the muscular coat, and can therefore be continued for prolonged periods without detriment. Their continued use has, in fact, a corrective tendency and some obstinate cases have much improved under their administration. Whilst the effects of enemata would refer to the good effects to be obtained from injections of warm water in various intestinal diseases and in many affections of the pelvic viscera. Such relief may be obtained in this way, to the irritation and pain so frequently associated with these disorders.

We are enabled to apply the soothing and analgetic influence of warm water to the seat of the disease, or
in close proximity thereto, whereas all external applications must necessarily be more or less remote. A more extended knowledge of the benefits which may be derived from this mode of local treatment in various pelvic and abdominal pains would, I am confident, lead to its more general adoption. Cold douching of the abdomen does a great deal of good in those troublesome cases of chronic constiveness, recurring in women. It serves as a powerful stimulant and tonic to the abdominal muscles, the relaxed condition of which is frequently a prominent factor in producing and maintaining constipation. When used in conjunction with the wearing through the day of a Cold Compress over the abdomen, the douche proves most efficient in promoting regularity of the bowels. In some instances, the use of the Cold Compress is itself
sufficient. Cold showers, the shower, or general cold
baths are useful aids
to treatment in constipation.
they act by improving the
general tone and condition
of the system, and thus
indirectly strengthen the bowels.
A warm sily-bath, with
message of the abdomen
will be found an effectual
method of producing an
action of the bowels. Sitting
over a vessel containing hot
water is also frequently successful
in bringing about the same
results with children.

Hot fomentations to the
abdomen are both comforting
and beneficial in diarrhoea.
If, simultaneously with these,
see be applied to the lower
third of the spine, the discharge
will rarely fail to be checked,
and relief will be afforded
to them should it be present.
This is explained by the fact,
formulated by Dr. Seielman,
that 'muscular tension is
diminished, and secretion
attenuated, by the application
of cold to the spine".
An injection of cold water
after each motion is an
excellent procedure in
diarrhoea, soothing irritation
of the mucous membrane, giving
rise to the bowel, and diminishing
secretion by constricting the
intestinal vessels. Exciting
diaaphoresis by the blanket,
or by a cold bath also serves
to diminish secretion and
check the diarrhoea, by
encouraging the action of
the skin and drawing the
blood more to the surface.
Shame and cramps are also
relieved by this means. It
is probable on this account
that the seventh bath has
been recommended in the
treatment of Cholera.
I can, I think, readily
understand that the treatment
of diarrhoea by producing
diaaphoresis, coincidently with
the administration of cold
water enemata, stands on a
sound physiological basis.

The employment of a cold
injection every morning for
three or four days is a
simple and effectual method
of getting rid of thread
worms. In children who
have a predisposition to the
presence of these parasites
it is a wise precaution to
administer an occasional
emulsion of this kind, as it
has a tonic effect on the
mucous membrane of the
bowel and washes out
unhealthy secretions. A
warm sitz bath is useful
in giving relief to the
irritation set up in the
anus, and rectum, by the
existence of the worms.

The ascending douche is an
exceedingly successful
application in both internal
and external haemorrhoids,
and can always be depended
upon to do good in these
cases. The patient sits on
a sheet with a circular aperture, much like that of an ordinary water closet, about a foot below is the nozzle of the douche. The tap is turned either by an attendant or the patient himself pulling a pipe, upon which a stream of cold water is directed, with considerable force, against the anus. If the temperature of the water be below 60°; its application should be limited to one or two minutes; in some cases however it is advisable to commence the douche with warm water, reducing this to cold in three or four minutes, and then continuing the cold for one minute. The ascending douche should be used two or three times a day, and always in addition to a movement of the bowels. If the douche is not available, bathing the thighs with cold water is very beneficial, or the cold.
Silt bath may be used. Injections of cold water are serviceable in internal piles and should be employed in addition to the external applications. If the piles are very painful, irritable, and inflamed, a warm silt bath will be found most useful and soothing. The various measures mentioned as useful in piles will also be found beneficial as aids to treatment in fistula.

Perianal abscess can also be very satisfactorily treated by the use of the cold poaching douche and injections of cold water. A cold silt bath should also be taken on rising in the morning occasionally, when the bowel has been down some time, or unskilled attempts have been made to return it; it becomes congested and swollen, and its reduction difficult, if not impossible; in this case the application of ice is most valuable; the congestion

and swelling rapidly diminish, and the bowel can be returned without further trouble.

Patients suffering from jaundice are occasionally troubled with irritation of the skin, which demands attention as it is apt to prevent sleep, and cause fretfulness and irritability. Warm baths are very useful in allaying this, and have, besides, a soothing influence on the system, which helps to make the patient much more comfortable. After an attack of jaundice, washing with the wet sheet, and vapour baths, will assist materially in removing the bile from the system by promoting elimination through the skin.

Hot fomentations are most generally serviceable in active hepatic congestion, but in cases of mechanical and passive congestion the continuous application
of cold compresses, and the occasional use of the cold cloth over the liver, gives the best results and can always be used with advantage to enhance the effect of the general treatment. Drinking cold water freely is a capital remedy for a bilious attack, whilst the use of hot fomentation bags, applied over the liver and stomach, will also be found beneficial. A bilious subject drinking four or five tumbler s of cold water daily, and taking a cold compress over the liver, will do much good in breaking the bilious habit.

During an attack of bilious colic considerable relief will be derived from the use of hot fomentations over the liver and bowels, and a warm bath may also be taken with much benefit. Nephiu resorts or warm water may be administered, with the object of promoting
the expulsion of the gall stone, and they sometimes prove very serviceable in this way. When a disposition to the formation of gall stones exists, the patient should drink water freely and wear a cold compress over the liver, whilst cold douching, followed by rubbing of the hepatic region, should be practiced daily. This treatment is thoroughly trustworthy in tending to prevent a return of this troublesome and dangerous affection.

Ice, applied to the loins, hypogastrum, and hypochondria, is valuable in checking hematuria. Should this prove to be peculiar in origin, injections of cold water into the bladder may also be used with benefit.

Uremic symptoms occurring in cases of renal disease.
are efficiently treated by
the aid of hot, and vapour,
baths. The blanket bath
has, in my experience, proved
particularly valuable in
urineux, even when blindness,
Convulsions, and delirium
ending in coma, have been
present.

In Renal Concretion hot
fomentations, applied to
the back over the kidneys,
and warm sitz baths, are
usually all that is necessary
in the way of treatment.

Two of the main considerations
in acute Bright's disease are
to excite a free action of the
skin and to increase the
elimination of urinary solids
by the kidneys. The former
is effectually performed
by the aid of the blanket,
or vapour, bath, my own
preference being in favour
of the use of the blanket
bath and I find this is the
case with so competent an
authority as Dr. Roberts, of
of Manchester, the latter is best accomplished by causing the patient to drink water freely which serves both as a diuretic and also to wash out the urinary tubes. An occasional diuretic bath should be taken during convalescence from acute Bright's and in the chronic form of the disease by thus exciting the skin to greater activity the strain on the kidneys is lessened and the danger of the accumulation of noxious products in the blood correspondingly diminished. This is of course a prominent symptom in renal inflammation and in the chronic forms of this affection its absence therefore has however been already discussed.

But footbathing over the hypocaustium changed at short intervals and the frequent use of the hot—
silt bath, give great relief in cystitis, lessening the pain and uneasiness, and subduing the constant desire to micturate, which causes so much distress in this disease. Both these measures are also serviceable in chronic cystitis, whilst washing out the bladder, at intervals, with warm water should also be practised, as it does much in alleviating irritation of that organ, and prevents decomposition of urine.

Retention of urine a hot-foot bath sometimes affords relief but the hot silt bath is more generally serviceable, rarely failing in its good effect. As the onset of this not succeeding cold compresses should be applied to the lower third of the back, with hot fomentations to the hypostastrum, and frequently renewed. It will be found that most cases will yield to this treatment but, in the event
of its being unsuccessful, exciting diarrhoea by means of the blanket, or various bath should be tried, as it not only relieves somewhat the weight of the symptoms but frequently overcomes the retention. It is needless to say that these measures are only indicated when we are not able to pass a Catheter, or wish to discriminate with its use.

In Rheumatic Cole drinking hot water freely, with the use of the hot dily bath, and warm fomentations to the back and loins, assist materially in curing case. Where the distension of the patient involves a tendency to gravel and the formation of urinary calculi he should be instructed to drink a considerable quantity of water daily. By this means the urine is maintained in such a state of dilution as to form an efficient safeguard
against deposits either in
the kidneys or bladder.
Attention to this matter will
not only suffice to prevent
further trouble but usually
obviates any necessity for
more formal treatment.

A hot foot bath, with ice,
or cold water, applications
to the head is highly
beneficial in congestive
headache. The headaches
occurring in connection with
Influenza, Cold-sore and Bronchitis,
or in Gout, or Rheumatism,
are most satisfactorily treated
by letting the head with
hot water or hot affusion;
whilst in those due to
the circulation through the
brain of poisonous products
in the blood—either the result
of imperfect excretion, or
imperfect aeration—the use
of cold applications to the
head are the most reliable.
Headaches resulting from exhaustion
or depression of the nervous
and bodily energy will also
be found to derive the greatest benefit from the application of cold, which may be applied by means of the ice-cask, cloths wrung out of iced water, or by cold bating or affusion. These measures are also the best to adopt in delirium, when it is of an active character, but warm bating and affusion should always be practiced in those cases where the delirium is low and muttering and attended with Carphology.

The cold douche or affusion, may be used with confidence in stupor and coma due to the presence of deleterious ingredients in the blood, such as is the case in the continued fevers, uræmia, diabetes, and acute inflammations, or in poisoning from alcohol, opium, or carbonic acid. It is also valuable in insensibility associated with hysteria, convulsions, or epilepsy, but should be administered with caution, its
influence on the pulse and respiration being closely watched. The same observation applied with increased force to the use of the cold douche, or cold affusion, in stupor and coma.

Sleeplessness is a condition which is a prolific source of distress to the patient and embarrassment to the physician, and it is to be regretted that the good effect which may be obtained in this troublesome affection by hydropathic procedures is not more generally known. The researches of Prof. Terrier, and others, have established the fact that the amount of blood in the brain is considerably diminished during sleep; a state of temporary cerebral anemia being set up. It may be fairly assumed that this condition of the brain is associated with the production of sleep and that, if we
Can induce cerebral anemia in a patient suffering from sleeplessness, we shall relieve him. In this instance clinical observation goes hand in hand with theory for it will be found that, if measures be calculated to diminish the vascularity of the brain be taken, cases of insomnia of the most varying and troublesome character will be overcome. My practice is to apply bandage or cloth, dipped in cold water, or the ice cube, to the head at the patient's usual bedtime and, if proper precautions be taken to secure him from disturbance, more or less refreshing sleep will almost invariably be obtained. This result is probably due to the cold applications causing contraction of the small cerebral bloodvessels, and thus tending to bring about a diminution in the supply of blood to the brain, and, in this manner, producing an anemic condition of
the cerebral substance.
Cold paroxysm, or douching of
the head, is also serviceable
as a remedy for sleeplessness.
A patient of mine, a gentleman,
aged sixty-eight, & who is
greatly troubled with insomnia,
convinced of the benefits to
be derived from the use of
the cold douche, has had
an apparatus fixed in his
bedroom, and if at any
time in the night he finds
himself unable to sleep, he
rises and uses the douche.
He informs me that this
is almost uniformly successful
in procuring sleep; other
similar instances have also
come under my notice.
A warm bath, both taken
at bedtime or often
applicatory, in sleeplessness,
the patient falling after its
use, into a comfortable sleep
very often to his surprise,
as most people feel inclined
to be somewhat sceptical
as to its sleep-producing
effect. Its influence in
this was is probably to be explained by the fact that its administration tends to decrease the amount of blood in the brain, by drawing an increased quantity to the pelvic and abdominal viscera and thus causing a condition of Comparative Cerebral Anemia which, as has been mentioned, is that state of the brain most favourable for sleep.

Cold affusion, or ice, applied to the head whilst the patient is in a warm bath is a most successful method of subduing the convulsions of children and is, I think, more generally used in this affection than any other mode of treatment.

I have practised injecting water into the substance of paralyzed muscles in some cases, under my care at the Royal Alexandra Hospital, and have been able to
confirm the observation of Bartholow as to the good results which may be obtained by the means. It does not seem to have any direct influence in restoring muscular power, but it prevents wasting in the affected muscles and, should this have taken place before the case comes under notice, injections of twelve to thirty minim of water have a marked effect in improving their nutrition. The muscle, increasing in size and firmness with comparative rapidity. The injection should be made one to three times into the substance of each muscle, according to its size, that can be reached by the needle of the ordinary hypodermic syringe, and this is to be repeated twice daily. Hypodermic injection of twenty minims of water will frequently relieve.
Superficial neuralgia: they must be repeated, if required, at short intervals until the desired effect is produced. The nutrition of the superficial nerves at the seat of pain is probably improved by their use and thus the neuralgia relieved, bearing out Rosenmberg's dictum that "pain is the prayer of a nerve for healthy blood," i.e., that imperfect nerve nutrition is the cause of pain. Cold bathing, or the application of ice, will often relieve neuralgic pain; its influence is, however, usually only temporary; it probably acts by producing local anesthesia.

A cold wet bandage tightly bound round the head, or the application of ice, will often prove beneficial in headache and, even if they fail in giving much relief, they are always grateful to the patient.
cold or tepid douching, or douching, is a valuable aid to treatment in hysteria, childbed, psychoneurosis, or general nervous debility. The result of my experience in cases of this kind is to place increasing stress on the systematic carrying out of hydropathic procedures, as those cases in which they have been practiced in conjunction with the ordinary medical treatment, have better results than those in which their use has been omitted.

A warm sitz bath, taken twice daily, with washing and bathing every three hours, in tepid (98°) water, gives considerable relief to various vague and unpleasant sensations about the head, associated with too intense mental anxiety and strain, in professional and business men.
Cold drenching of the body, two or three times a day, with cold douching of the spine has a most excellent result in Chorea, controlling the muscular movements, and giving tone to the system. Ice applied to the spine and back of the head, is very useful should the disease assume an acute type. The benefit derived in Chorea from the application of ice, or the cold douche to the spine, can be readily apprehended when we consider that, in three cases not connected with Rheumatism, Hypersemia of the spinal cord and the ganglia at the base of the brain has been generally considered to be the cause of the disease and that cold applied to the spine, and back of the head, would have a powerful influence in diminishing this increased vascularitiy, and thus lessening the nervous disturbance producing...
the Choracic movements
Then Chorea is associated
with rheumatism it is
supposed to be due to
minute emboli carried
from vegetations on the
valves of the heart and
lodged in some of the
small vessels of the
Cerebral Constitution.
This theory would explain
the clinical fact that
in Rheumatic Chorea the
use of cold is not
productive of benefit
and may even be
injurious as it is apparent
it could have no effect
upon the pathological
condition.

The application of ice
to the spine with free
Cold sloouching of the
head and chest is
considered to be the
best treatment in
Stroko. Cases of a
severe character are
fortunately rare. in
England, and none have come under my observation, either at home or abroad, so that I have no personal experience of this affection. It is not, however, an uncommon matter to meet with delirium, nervous excitability, severe headache, and feverishness, sometimes accompanied with vomiting and purging, as the result of exposure to a hot sun. In these cases, douching the skin with cold water and applying ice or cold wet cloths to the head gives comparatively prompt relief to the symptoms.

Ice is of great value in meningitis and, freely applied, is the only local remedy which affords any relief.

Water holds an important position in the treatment of many urinary affections.
and hot foot bath as a means of inducing menstruation, if this be suspected, is deficient, is well known, but they should not be prescribed indiscriminately, as in some cases they do no good but rather harm. Amenorrhoea is often most satisfactorily treated by the use of the cold sily bath (60°), taken every night at bedtime for ten or twelve days before the time that the period may be expected. The patient should sit in the bath for ten minutes; the shoulders and legs being wrapped in blankets; and a hot bottle applied to the feet. After leaving the bath she should be well rubbed with a Turkish towel, and put to bed. The bath should be repeated before each expected period until the flow is established. This practice will be found to
produce most excellent results; it should not however be employed if there are any symptoms of other constitutional affections. Caution must also be used in prescribing it for delicate and anemic patients. The warm sitz bath is very useful, as an adjunct to treatment, in many cases of dysmenorrhoea and endometritis.

Hot water bags are of great value in dysmenorrhoea, and occasionally in dysmenorrhoea they should be applied to the spine, and have the advantage of being used with comparatively little trouble or inconvenience.

Injections (vaginal) of cold water, and cold sitz baths, are exceedingly useful in dysmenorrhoea. They might be more generally
used as by women with much advantage, as a means of maintaining a healthy condition of the reproductive organs. The cold whole bath may be prescribed with decided benefit as an anaphrodisiac in cases requiring this form of treatment from too great vascularity of the pelvic viscera.

Dermal injections of hot water may be used with benefit after the termination of each menstrual period, washing away clots, threads of membrane, and other undesirable debris.

Ice, applied to the spine, will be found to have a decided effect in checking the sickness of pregnancy. It is also useful as a substitute for the cold whole bath in amenorrhoea and in relieving many forms of pelvic pain associated with
cases of clinical inattention

not in the least are of

great benefit unless all

of the presence of