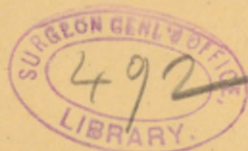
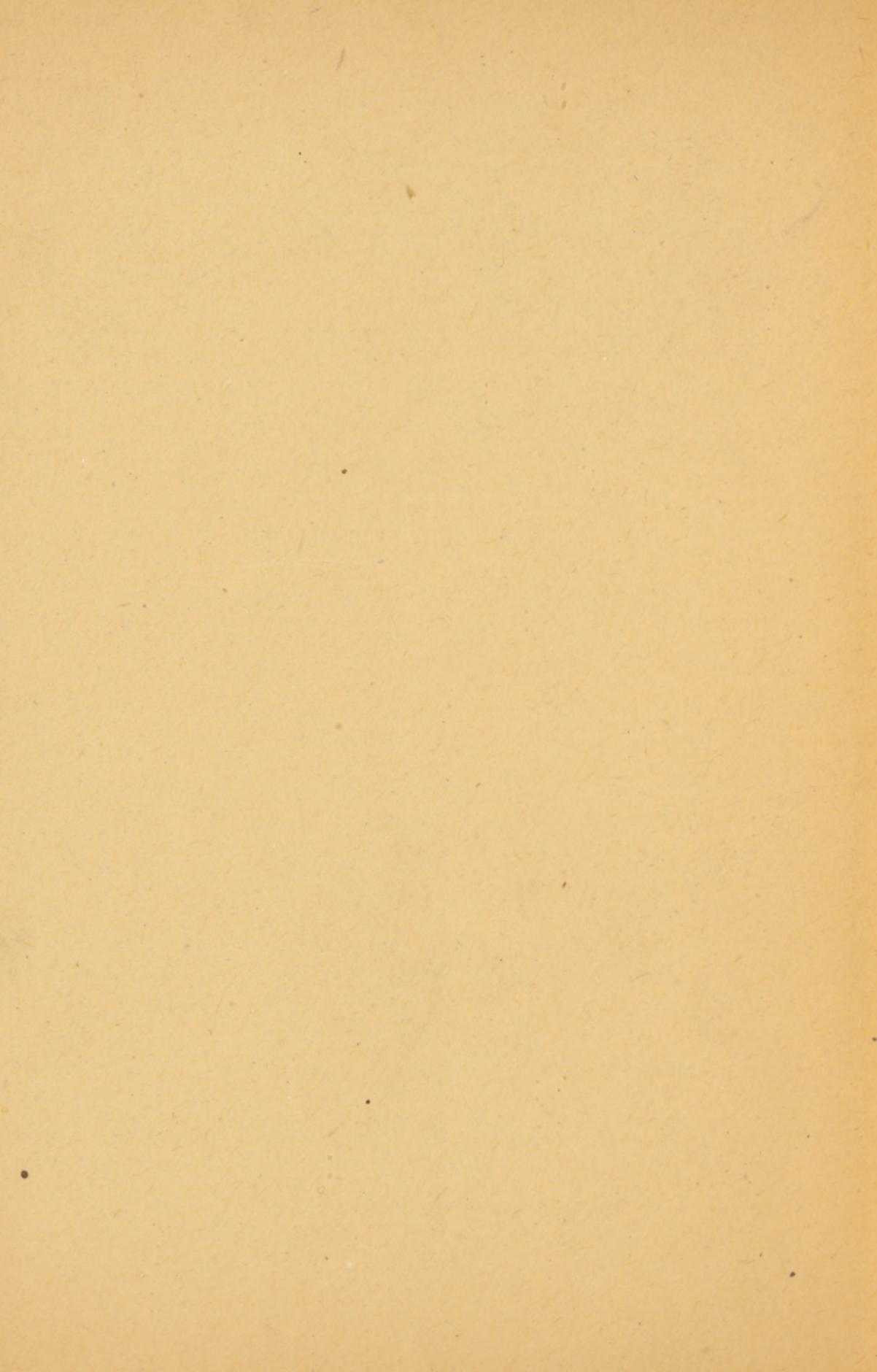


Radcliffe (S. J.)

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measure in Health and in
Disease





Cold Water as a Hygienic Measure in Health and in Disease.

BY S. J. RADCLIFFE, M.D., WASHINGTON, D. C.

WHILE drugs and medicines are often inappropriate or inapplicable, many times used wrongfully and without due reference to their effects, cold water has a wide range of usefulness, is applicable in all diseases, is rarely ever contra-indicated, can be employed without complicating or masking symptoms, and always, as a rule, with benefit to the patient. It can rightly be called a universal panacea.

If the deprivation of water in health is attended with evil results, withholding it in disease cannot be regarded in a less unfavorable light. Water in health is as necessary as bread, for no one can live without the one any more than he can live without the other. In disease it is quite as requisite in meeting indications which many times cannot be reached by other means. He who recalls the old practice of withholding from infants and little children cold water after the administration of calomel—for instance, in cholera infantum and other affections of the stomach and bowels—and has in his mind the pitiful cries and pleadings of these little ones for a drop of that cooling fluid, cannot, in view of the present teachings, but look upon such practice as barbarous in the extreme. Many an infant or child no doubt died twenty or thirty years ago from gastro-enteric fever from a total disregard of Nature's palpable teachings in depriving them of this most essential refrigerant and diluent—died from harrowing thirst, the burning thirst of consuming inflammatory fever.

This fact alone demonstrates conclusively the natural cravings of the system at large for something—for some material aid in those healthful processes which tend to overcome disease action or general pathological conditions, and restore the economy to its normal standard. The expres-

sion of infancy by sign language is wholly without whim or caprice, and is not based upon reason or judgment, but guided by a want, on which depends frequently functional life or continuance of being, and offers us lessons in physiological needs and changes which are or might be useful to us in the treatment of all diseases.

There is perhaps no more useful prophylactic than water. Every fat person, as a rule, drinks largely of water, and, on the other hand, every lean person drinks very sparingly of this fluid. This proposition may not always be traced from cause to effect, yet this seeming fact remains. Whether the fat man requires more water and the lean man less is not certain. It cannot be said that the fluid of one requires more dilution than that of the other, or the exhalations, secretions, or excretions are proportionately greater in the one case than in the other; but it shows that water-drinking has a tendency toward health and strength, and the protection of the body from variations in temperature, and the saying may be ventured that the breaking-up of the oxyhydrogen of water by chemical affinities may have a tendency to facilitate the production of those hydrocarbons upon which fat depends, and successively its deposit as adipose tissue.

It is a known fact that the drinking of large quantities of milk, which is largely composed of water (ninety-five per cent), causes a tendency to obesity that if kept up will soon produce corpulence—a roundness and plumpness of the entire body not accounted for entirely by its small amount of solid and nutritious contents; and this condition may be continued or reduced at will by modifying or changing the quantity taken, or shortening or lengthening the intervals in which



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it is taken. Beer-drinking, when indulged in to excess, has somewhat an analogous effect. This beverage is also composed largely of water, and its effects in this direction cannot be attributed solely to the alcohol it contains, for alcohol *per se* is not fattening. Alcohol, as found in brandy, whiskey, and rum, will not produce these results. Pure alcoholic stimulants produce rather a contrary effect: they lower the temperature, vitiate the appetite, set up a chronic gastritis or dyspepsia, or harden the coats of the stomach and make it unfit for digestion; while in beer-drinking the large quantity of water it contains helps to lessen the action of its alcoholic properties and further removes the end or termination of such excesses in alcoholic poisoning. These two instances are given only to show what effect watery fluids accomplish in the economy, and, as to the latter, not for any special apology or recommendation as to their use. They have their proper place as beverages, and must be employed only whenever reliable indications point out that they are necessary.

As external prophylactics nothing is more needful, grateful, or more conducive to health than baths—the tepid, hot, or warm bath for those of delicate constitution, the cold, shower, Turkish, or Russian bath for the more robust and vigorous. They may be taken simple or medicated, to meet indications or as occasion may require—as saline or sulphur to increase immediately their pungency and derivative effect, disinfecting or healing as to their ulterior results.

All full baths apply to the entire surface. They soften and remove débris of worn-out tissues, the results of tissue metamorphosis and cell growth, remove excretions and unhealthy exudations, free the ducts of the glandular structures and sudorific outlets, favor transudation and a healthy action generally of the cutaneous or dermic apparatus. They stimulate thereby the integu-

mentary circulation, relieve engorgement, and ward off organic lesions.

Internally the use of cold water as a prophylactic is not less apparent. A glass of cold water, when it can be taken before breakfast, washes out the stomach and cleanses it from the accumulated mucus, and perhaps the remains of food left over-night, gives tone to the stomach and prepares it for the early meal. It also gives increased peristaltic action to the entire length of the small intestine, softens its contents, and tends to produce a consistent, healthy, and natural action soon after the meal. Perhaps no remedy is better adapted to keep the bowels regular, soften their contents, and overcome habitual constipation than a glass of this fluid before breakfast.

It also supplies the blood and tissues with their necessary fluid contents, which constantly needs replenishing—the watery constituent of the blood being about 779 parts in 1,000 parts—and, according to the observations of Flint, acts as a solvent for the inorganic salts, the organic salts, and the excrementitious matters, and in conjunction with the nitrogenized principles it constitutes a medium in which the corpuscles are suspended without solution. It decreases blood pressure, dilutes the urine and its salts, increases the secretion and the flow, lessens its chances of forming nephritic or cystic concretions or calculi and causing irritation in its course. It helps to remove products of tissue metamorphosis throughout the system, and plays an important part in moistening the exhalations through the skin and organs of respiration.

But cold water as an element in the treatment of disease has claims which cannot be overlooked. Whether it is employed internally or externally, it supplies needs which it is impossible to utilize or obtain from other sources. It is a febrifuge of high order; an incomparable diluent;

it is an unsurpassed lavator; it is a tonic to all tissues and elements of the body. It is always soothing or exhilarating or grateful to the patient; and all the beneficial results which are produced by it upon the healthy organism are seen to be pronounced in a magnified degree in all diseased conditions.

The rôle that cold water plays in the treatment of all febrile and inflammatory conditions is familiar to every observer. The results obtained in these cases are due in a great measure to its diaphoretic or diuretic action. Its continual administration reduces or keeps in check excessive temperature by inducing perspiration and diuresis, mild physiological depletion, supplying the pabulum as a factor, and discharging the excreta when completed.

No case of fever is well treated unless a liberal quantity of water is allowed. It cannot be omitted without detriment to the patient. It is never contra-indicated, always agrees, and is always welcomed. There are no cases in which it is inappropriate, except perhaps acute gastric disorders, in which condition it is only necessary to lessen the quantity. Water in small sips or draughts can always be taken in the most acute cases and by the most delicate stomach.

If the use of water internally in fever is always manifested by improvement, its external application by baths is quite as, if not more, satisfactory. This mode of treating fevers is perhaps not so popular, and it is difficult to carry it out in private practice, but in every instance where it has been given a fair trial its utility in abstracting heat, and therefore reducing temperature, has been proven beyond question. Some of the most prominent practitioners of the Continent of Europe, of England, as well as of this country, regard this way of treating fevers equal to any antipyretic treatment of which we

have knowledge, and say it will indeed give a larger per cent of successful results than the expectant treatment. The cold-bath treatment is applicable to all fevers with high temperature, but it is in typhoid fever where its successes have been most signal, and where it is accompanied with less qualification as to results. Statistics from every direction show that complications have been lessened, and where complications arose they were mitigated; and the most important feature of it all is that the mortality has been reduced to a wonderful degree. Dr. Hare, of Brisbane (*Practitioner*, March, 1891), in analyzing eighteen hundred and twenty-eight cases of typhoid fever treated expectantly, and eleven hundred and seventy-three treated with the cold bath, says, in conclusion, that hospital mortality may be greatly reduced—upward of fifty per cent—by the cold-bath treatment, but that it can hardly fall below five per cent, since the death rate from perforation and hæmorrhage amounts fairly constantly to four and a quarter per cent. He says the lethal influence of the intestinal lesion is lessened under this treatment by moderating the diarrhoea and by sustaining the strength of the patient. He says Brand's rule should be strictly adhered to—namely, a cold bath at 68° F., given every three hours (if the rectal temperature reach 102.2° F.) and lasting about fifteen minutes, attention, of course, being paid to certain well-known contra-indications (*Supplement Brit. Med. Journal*, May, 1891). This is the general verdict, and the consensus of opinion confirms it; but the question still arises, Will the profession and the public ever be educated up to the point of adopting this treatment in every case of typhoid fever?

There are certain conditions of the system that are peculiarly amenable to treatment by water. Any good, pure, potable water may in many cases be sufficient, but there is a

large class of mineral waters that are better adapted to meet a great many special indications not to be found in drinking plain, pure water.

For a long time it was questioned whether it was not the taking of large quantities of water, without regard to its contents, that brought about the beneficial results observed in disease. But such was found not to be the case. Certain noted and reputable waters, celebrated for their purity and freedom from organic matter, as the Poland and Bethesda, seem not to contain ingredients in the form of soluble salts sufficient to produce any marked effect upon the system, and yet many cases of chronic nephritic disorders have been recorded as cured or relieved after their persistent use for a long period. The waters of Bedford and Capon have a good reputation in relieving gastric troubles—as chronic dyspepsia—and the yellow and red sulphur in catarrhal diseases of the air passages, and even tuberculosis, and benefit also those suffering from skin diseases. Buffalo Lithia stands probably unrivalled in the uric acid diathesis in gout and rheumatism; and I know of no better remedy for certain forms of diarrhoea with frequent serous operations, and hæmorrhages, especially hæmaturia, than Rockbridge alum water. I have treated such cases with this water with phenomenal success. In such organic diseases as Bright's disease and diabetes mellitus, where the pathology is still obscure, waters of any kind, though beneficial to a great degree, are not curative. It is only in functional disorders, or at least otherwise only in a restricted sense, that mineral waters display their greatest power—when the liver is at fault and fails to perform its proper function, where there is deficient secretion of bile or some of the elements are deficient or in excess, and where the products of disassimilation—as urea and uric acid, the former of which is found in a normal condition in the lymph, chyle, blood,

sweat, vitreous humor, in the liver and muscular juice—are retained as abnormal elements in the economy.

It is a particularly important factor in forming solution where excess of water is required to dissolve and wash away these products of destructive and disassimilative action in the economy from the liver and muscular and glandular structures, where the quantity of solid matter is comparatively large and the quantity of water is relatively small, as taurocholates and glycocholates, cholesterin, glycogen, biliverdin, as well as, as stated, urea and uric acid, the latter—uric acid—being principally found in the liver. But of all these combined or elementary principles, the result of destructive changes or metamorphosis, some become effete and some go to form other and new combinations for physiological purposes, and for general use in the economy, helped on by the use of water; from which it can be seen how important is a sufficient or even bountiful supply of water, and how requisite it is to maintain this supply at all times.

It is not contended that water in the treatment of disease can or even will take the place of drugs and medicines; these are essential and will always form the armament with which to combat any and all pathological conditions. But the point may be reached where a certain amount of rational hydropathic treatment, if to be used as prophylactic or hygienic elements merely, may have the effect of at least reducing the number of preventable diseases, which all agree is of paramount importance, if it does not prove quite equal in any emergency in which it may be employed. "Cleanliness is next to godliness," and water will, without doubt, produce the former, and have a strong tendency in the long run to induce the latter. Whoever is an advocate for water as applied to his own person, need not fear the approach of disease, or its reality when it comes.

