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ANTISEPTIC TREATMENT.

A BOOK FOR LADIES AND LADIES' NURSES.

CONTAINING

A SHORT SKETCH OF THE MOST RECENT SCIENTIFIC
ADVANCES IN THE CAUSES AND TREATMENT
OF DISEASE.

BY

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"BILIOUSNESS," &c., &c.

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INTRODUCTION.

SOME weeks ago, it was proposed to me that I should submit certain antiseptic preparations to stringent chemical, analytical and mechanical tests, and if satisfied as to their virtues, give a short testimonial to that effect.

So satisfactory are the results of my investigation that I feel myself justified in departing in this instance from the usual professional rule, and in extending my testimonial into a small pamphlet.

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ANTISEPTIC TREATMENT.

CHAPTER I.

ANTISEPTIC TREATMENT EXPLAINED.

MANY years ago Professor Tyndall, by the aid of a beam of condensed light, proved by ocular demonstration that the atmosphere of this globe was everywhere pervaded with minute particles of matter, the so-called "Cosmic dust."

Within quite recent times the distinguished Scientists, M. Pasteur of Paris, and Professor Sir Joseph Lister, of Edinburgh, by a series of very exact and careful experiments, showed that the air was also inhabited by a thick population of parasitic plants.

They furthermore made it evident that even the purest air, such as that obtained from mountain tops, contained in abundance such plants and their spores or germs, and that what we call putrefaction or decay, was due solely to a process of fermentation, set up by such parasites in devitalised organic matter.

Extended research brought to light many fresh and most important facts; thus, these minute plants were found to be of infinite variety and to possess very various powers of producing fermentation, and each variety was, like the higher plants, seen to be subject to different

environments of soil, light, air, heat and moisture, as necessary conditions to its perfect development.

The next step in advance was the discovery that all the so-called epidemic and endemic fevers, and many other maladies, depended on the presence in the air of certain localities of *special* parasites, which, entering the blood channels of man, set up therein various forms of fermentation, the results of which were seen in the symptoms which characterise each of such complaints.

Contagion was thus accounted for, and the constant similarity of the phenomena observed in the same class of fever. The short duration of fevers was also explained, for the soil in which the parasites flourished—the blood of man—being limited in amount must naturally soon be exhausted, and could only for a certain time support the growth of the rapidly multiplying crops of *one* variety of parasitic plant, though it did not thereby, of necessity, become sterile as regarded other varieties. A soil exhausted by successive crops of wheat will grow clover, and so blood which the special parasite of scarlatina has exhausted, can still nourish the parasitic plant of diphtheria, of measles, or of small-pox. This also accounted for the long interval of time which must elapse ere the same parasitic disease can recur, and for the fact that diseases such as measles, regarded as mild in Europe, become, when they take root in a virgin soil, such as the blood of South Sea Islanders, malignant and often fatal disorders.

Thus the vast majority of our diseases, and *all* decomposition and decay, were found to be dependent on differing processes of fermentation, and the ferments, the parasitic plants themselves, were duly labelled with scientific names. With a detailed list of these I do not intend to trouble the reader, but shall select the one generic term “bacteria,” which includes the whole group of parasitic beings of which I have spoken.

But not only were the growth and powers of individual species of bacteria seen to be dependent on soil, climate, light, air (*i.e.*, oxygen), heat, and moisture but there were found to be practically two great channels by means of which bacteria could obtain access to the human body, viz., by the mucous surfaces (*i.e.*, the mouth, nose, etc.), and by recent flesh wounds. Some bacteria could enter equally by both, others were capable of passing only one of the two portals. Thus diphtheria was found to attack indifferently either a blistered surface or the mouth, while pyæmia could enter only by a wound, and typhoid fever by the mouth alone.

At this point the matter now stands, and from it the following great practical question arises :—

How may mankind protect itself against the dangerous onslaughts of these ubiquitous pests ?

FIRSTLY.—*By avoiding the localities, such as marshy ground and fever-stricken rooms, houses, and districts, where the most deadly of these parasites are known to be in action.*

SECONDLY.—*By maintaining a high state of vitality, i.e., of health, in the body.*

Since it is only over organic matter that is actually dead or of feeble vitality, that any bacterium has power, and only on waste and effete material in the blood that the bacteria can feed, it follows that the highest point of physical health (which is not always synonymous with the greatest muscular power), is that which is least likely to suffer from a parasitic invasion.

THIRDLY.—*By destroying the bacteria.*

Many chemical agents act as poisons to these parasites.

Ozone (a form of concentrated oxygen), chlorine and sulphurous acid gases are, amongst vapours, the most deadly. In Condy's fluid use is made of oxygen; in chloride of lime, of chlorine gas; and in burning sulphur, of sulphurous acid gas. For many reasons these gaseous disinfectants are unsuited for general use, and therefore others in the solid or liquid state, such as boracic acid and carbolic acid, have from time to time found favour with the general public and the medical world. Within the last five years a fresh chemical agent, CORROSIVE SUBLIMATE, which may well be called the Prince of Disinfectants and Antiseptics, has been brought forward, and has in all cases where a *real* destroyer of bacteria is desired, completely replaced all others. Compared with its nearest rival, carbolic acid, corrosive sublimate is *37 times more potent!* whilst in solution of equal efficacy it is *three times less poisonous.*

The whole process of infection by bacteria is spoken of as sepsis; and organic material to which bacteria have gained access, and in which they are setting up fermentation, is said to be septic. Agents that have the power of destroying bacteria are, therefore, called antiseptics.

Since corrosive sublimate is pre-eminent amongst the antidotes to sepsis I shall, in future pages, deal only with it, and I must be understood as referring to it when I speak of "the antiseptic."

CHAPTER II.

THE APPLICATION OF ANTISEPTICS IN THE TREATMENT OF THE SPECIAL AILMENTS OF WOMEN.

It is one thing, however, to discover an antiseptic, and another thing to adapt it to popular use.

For seventeen years the great virtues of carbolic acid in the prevention and the cure of disease were known to, and made use of, by every member of the medical profession, and yet not even up to the present time are the public in any reasonable way acquainted with the real directions and the limits of its utility. They know the name only because it has been seized on by enterprising manufacturers for trade purposes, most of the articles into which it has been introduced being credited with such marvellous powers as either to disgust the better educated classes, or to lead the ignorant into an unwise reliance on those powers, to the neglect of the common sense laws of health and sanitation.

Wisely relying exclusively on the advice and opinions of eminent foreign and English scientists, one company, founded by the well-known chemist, Herr Hartmann, has made a successful attempt to supply to the public in perfectly safe and in most convenient forms, various articles possessed of *real* and valuable antiseptic and hygienic properties. The Company to which I refer is the Sanitary Wood Wool Company.

Its preparations are of three kinds :—

1st.—Hartmann's Hygienic Wood Wool Diapers.

These consist of 85 per cent. of pinewood, so crushed and macerated by a special process as to be softer and more

absorbent than any cotton-wool, while yet retaining the pleasant resinous aroma of the wood. The crushed wood—the so called Wood Wool—is impregnated with a mild but efficient amount of the antiseptic so as to remain, even after prolonged exposure to the most offensive of material, perfectly inodorous.

2nd.—Antiseptic Wood Wool Confinement Sheets.

These consist of the same material as the diapers, and are about a yard square. (Several sizes are now made.)

3rd.—Antiseptic Lotiforms.

These are small pledgets of cotton-wool, kept in special bottles, and so impregnated with the antiseptic as to form when cut open and dropped into water a most potent and valuable disinfectant lotion or vaginal injection.

Full directions for use are supplied with each preparation.

In the following states and disorders, special to ladies, the above preparations are to be highly recommended:—

A.—NATURAL STATES.

Accouchement.—The great danger to the lying-in woman is blood poisoning, *i.e.*, puerperal fever. This fever is dependent solely on the entrance into the body of the patient of bacteria, either through a laceration, such as commonly occurs at confinement, or through the open mouths of the blood vessels in the recently emptied womb.

Now, it is clear that if the injections made by the use of the lotiforms be really antiseptic, as the most eminent authorities certify them to be, and if such injections be used once or twice a day, for the five or six days which

succeed accouchement, that all risks of the occurrence of puerperal fever must be obviated, or, at any rate, minimised.

Additional security will be afforded by the use of the wood wool diapers, which not only prevent the entrance of bacteria, but are themselves *chemically* clean (*i.e.*, free from living bacteria or their germs), which is the case with *no* linen diaper, *however carefully washed*. Indeed, many cases of puerperal fever have been traced directly to the use of common diapers, which have been infected either at the house of the washerwoman or in transit therefrom.

The confinement sheet by its great softness is not only a comfort to the patient, but by absorbing and instantaneously deodorising and disinfecting all discharges, further provides against the risk of the accouchée being infected by material which has soiled the bed, and has become, as such does in a short time, septic and dangerous.

The Menstrual Period.—One of the evil results of civilisation has been to pervert this state from a scarcely noticeable and never troublesome natural condition into one which in many cases approaches to disease.

In all cases, however, the normal as well as the abnormal, the wood wool diapers are from the points of view of comfort and health, a vast improvement on the old fashioned plan, or any substitute for it with which I am acquainted. Even on the score of economy the hygienic wood wool diapers will, I venture to predict, be found valuable.

In many cases, the menstrual period is one of enforced rest, the congested state of the womb natural to this time augmenting any sensation of bearing down or of dragging previously experienced. Applied in the way to be described a few pages hence, these diapers will be found to com-

pletely relieve this state of matters, and to render walking and sitting possible and painless.

It is perhaps, however, on long railway journeys and in travelling that ladies will most keenly appreciate the advantages possessed by the Hartmann's hygienic wood wool diapers over those commonly in use.

B.—DISEASED CONDITIONS.

Of the complaints special to women, there are four great classes :—1st. Simple discharges ; 2nd. Ulcerations of the womb or passage, attended by special discharges ; 3rd. Displacements of the womb ; 4th. Tumours.

1. *Simple Discharges.*—These, common amongst the inhabitants of large cities, and due to a relaxed condition of the mucous linings owing to loss of tone and lowering of general health, demand for their cure, two lines of treatment, viz., improvement of the health by sea air, tonics, &c., and the use of cleansing local applications. Of the latter, the injections made by the Lotiforms are the best, as they thoroughly cleanse the parts, remove unnatural secretions, and gently stimulate the tissues to healthy action.

In the majority of cases such an injection used twice daily will, in conjunction with means to improve the health, effect a rapid cure, but if an astringent action be also desirable, a small quantity of alum, or of sulphate of zinc, may be added to the injection by the patient herself without fear of impairing materially the special efficacy of the disinfectant.

In many cases of profuse lencorrhœa the regular use of the diapers will be obviously conducive to health and comfort.

2. *Ulcerations attended by special discharges.*—With but

one exception, that of cancerous ulceration, the lotiform injections are in most cases, without further aid, efficient in curing the patient. They should be used twice a day, and may, as in the case of simple discharges, be combined if necessary with alum.

In ulcerating cancer, neither antiseptic injections nor any other local application can pretend to a cure, but even in this desperate condition the powerfully deodorant and antiseptic properties resident in both injections and diapers are of the highest service, and may truthfully be said to do a little towards the prolongation of life.

3. *Displacements of the womb.*—Of this class there are three varieties, displacements forward (ante-version and ante-flexion), displacements backward (retro-version and retro-flexion), displacements downward (prolapse and procidentia).

The milder forms of displacement forwards and backwards are not, as vulgarly believed, unless the womb be actually tied down by inflammatory bands to its false position, of great importance, and are indeed oftentimes consistent with perfect health and comfort. It is altogether different with the downward displacements, which are popularly called, "falling of the womb." In this disorder hygienic wood wool diapers are of the greatest service as mechanical supports. They should be applied as follows: A well-fitting, but not too tight abdominal belt should be made and fixed just above the hips. This belt may be supported by strips of flannel, worn after the manner of braces, and crossing both in front and behind. A diaper is then firmly attached to the front and back of the abdominal belt, and will be found to constitute a most efficient and comfortable support. The whole apparatus can be made in a couple of hours and at the cost of a few shillings.

The ordinary methods in use for the relief of "womb falling" consist either of instruments worn internally—so called pessaries—which rarely fit well, require to be frequently removed and replaced by a doctor, often cause ulceration, and can never be said to really cure, in fact rather tend to impede recovery by maintaining an undue dilatation of the passage; or of an external apparatus consisting of an abdominal belt with a rubber pad and band attached thereto. This contrivance, though both more rational and more efficacious than almost any pessary, still possesses the following disadvantages:—It is costly; the abdominal belt, supported by the hips only, must be worn tight, and will then directly tend to force the womb *further down*; the pad and band are so uncomfortable that no patient will for long tolerate its use; and, finally, the pad becomes rapidly offensive.

Of course, wood wool diapers, however well applied, must not alone be depended on as a cure for prolapse. Other measures, designed to improve the health, and thus restore the tone in the weakened ligaments that should retain the womb in position, must simultaneously be employed.

If the prolapse be accompanied by discharge, or by ulceration, as it commonly is, the injections made from the lotiforms, with or without the addition of an astringent, must be called into requisition.

4. *Tumours of the womb.*—The treatment of this, the fourth class, must be early handed over to the care of a competent obstetric surgeon. I have cured many such womb tumours by early operation, and without the necessity of keeping the patient in bed more than a few days, and without appreciable risk to life or much subsequent pain, tumours which, if left alone to grow, would in a few months

have attained dimensions which would have involved an operation of such magnitude as seriously to endanger life.

It has occurred to me as possible, since corrosive sublimate is a salt of mercury, and that the salts of mercury are known to be possessed of poisonous properties, that a doubt may arise, amongst ladies, as to the perfect safety of vaginal injections of which the sublimate is an ingredient. Let me at once completely reassure them on this point. In the first place, the vagina is lined by a mucous membrane which, in all states, both of health and of disease pours out a steady flow of mucus. Now mucus is an albuminous compound, and chemistry teaches us that in the presence of such, corrosive sublimate invariably forms an albuminate of mercury, which, being perfectly insoluble is, even in large quantities, harmless to mankind. Apart, however, altogether from this special safeguard, the vaginal injections recommended by me can do no harm for the two following reasons: that the amount of sublimate present is too small, being in the proportion to water only as *one to fifteen thousand*, and that the powers of absorption possessed by the vagina are exceedingly limited.

These injections may, therefore, be regarded as amongst *all* injections peculiar by their harmlessness, though of course the same remark applies to their use as to that of all other forms of medication, namely, that they should be discontinued when the conditions for the relief of which they are used have passed away; plain tepid water or borax and water (one teaspoonful of powdered borax to the quart of tepid water) being then substituted as a daily vaginal douche.

CHAPTER III.

THE SPECIAL ADVANTAGES OF ANTISEPTICS IN CONFINEMENT.

A Chapter for Nurses.

ROBBED of that mystery with which ignorance has surrounded it, child-bearing may be described as a simple process, rarely attended by danger.

Such dangers as may exist are, however, of an exceedingly grave nature, and may conveniently be divided into two classes, viz., those arising from, or directly connected with, the actual mechanism of labour, and those dependent on the subsequent infection of the female by bacteria. Both classes are essentially due to departures either in the structure of the woman or in her surroundings, from the normal state and conditions of human life; and the aim of scientific medicine, when, in such cases, its aid has to be invoked, is to restore, or to imitate as closely as possible, the original and natural conditions.

A.—DANGERS CONNECTED WITH LABOUR ITSELF.

The natural process of parturition such as I have myself had opportunities of personally observing it among the aborigines of Australasia, and among the robust peasant women of Europe, is as compared with that experienced by the female inhabitants of our large towns, nearly always short, simple and uncomplicated, calling for no skilled intervention whatsoever. Civilization has, however, greatly to the disadvantage of humanity, modified the process in a two-fold way. Firstly, by bringing about an average increase in the size of the

infant's head, and secondly, by inducing weakness of the muscular and nervous systems of womankind, upon the strength and perfection of which the favourable issue of labour mainly rests. The consequences being that the duration and painfulness of child-bearing have been enormously increased, and that exhaustion, hæmorrhage shock, and other dangers, have become relatively common, and even prove occasionally fatal.

The only rational method of successfully meeting these dangers is obviously to shorten the process of labour and to lessen pain.

In all cases, therefore, where the accoucheur discerns risk to his patient from protracted agony, he does wisely in following those two indications for treatment; the shortening of labour being secured by various methods, upon which I need not here enter and which vary with the actual case in hand; the lessening of pain by the administration of chloroform, ether, or some other anæsthetic, the absolute safety of which in accouchements is abundantly attested by the fact that, though employed on many millions of occasions, there exists as yet no record of a single death in labour resulting thereupon.

I have myself administered an anæsthetic over eight hundred times in labour, and have never witnessed signs of danger and, but very rarely, even subsequent discomfort arising therefrom.

Science thereby endeavours to place the suffering and imperilled woman in comfort and safety, and the accoucheur who is acquainted with and conscientiously follows her teachings, acts really in the capacity of a humble imitator of nature, and seeks not, as is vulgarly supposed, to improve on her, nor much less to set himself in opposition to her methods.

But not only may, by tact and skill, the most formidable cases of labour be brought to a speedy and successful

issue, but even a greater benefit flows therefrom; for the patient whose strength has been thus wisely economised, is far less prone than her less fortunate sisters to suffer from subsequent bacterial attacks of fever, or, if attacked, to fall a victim to them.

B.—DANGERS FROM BACTERIAL INFECTION.

Of all periods in human existence, the first few days which follow accouchement is that most prone to attacks of fever, and that in which fevers take generally their most malignant form.

Nor are the causes of this far to seek, for there is present at such a time in the discharges a favourable breeding ground for bacteria, and through the half-closed mouths of the blood-vessels in the womb and through such lacerations as may occur even in the most easy labours, channels by way of which those producers of fever can gain ready access to the blood, which latter fluid, modified as it always is by pregnancy, seems to present a more than usually favourable field for their depredations.

But how avert the danger?

In the first place, by avoiding as far as possible all risk of contagion. The lying-in-room should be large and well ventilated, and in an especial manner free from any chance contamination by sewer gas. No attendants recently exposed to infection, nor any article of clothing that may have passed through the hands of any exposed persons should be admitted to the room, much less placed in close contact with the patient.

In the second place, by using antiseptics. I believe I am perfectly correct in saying that, whilst in surgery there are many still sceptical as to the necessity or antiseptic treatment in dealing with wounds, more than fifty per cent. among accoucheurs, convinced by experience only, rely absolutely on their use as a

sure barrier against puerperal fever; whilst of the remainder at least forty per cent. employ them very largely, but doubt their necessity in *all* cases; whilst of the ten per cent. that remain there *is not one* who does not hurriedly have recourse to antiseptics when the mischief is done, to cleanse the discharges and prevent the further inroads of bacteria. No modern treatise of midwifery with which I am acquainted fails to urge their employment, nor to illustrate the vast benefits which result from their employment even in cases already infected by the most deadly bacteria—the most telling and practical of all tests.

The accouchement sheets of the Sanitary Wood Wool Company, on account of their perfect state of antisepticism, of their absorbent powers, and of their softness, should replace during labour the ordinary layers of macintosh and folded sheets (amongst the poorer classes it is the custom to use *soiled linen!!* for this purpose) or blankets whose chemical cleanliness is never perfect. For a similar reason, the wood wool diapers may, when labour has been completed, very advantageously replace the ordinary ones. These measures, however, are not enough. The vagina should for the first week be thoroughly washed out, twice each day, by an injection made by the use of the lotiforms or by some other antiseptic lotion.

The amount of fluid used at each injection may, by the use of half a lotiform, be limited to a pint, and this cleansing can, by the aid of a skilful nurse, be carried out without inconvenience to the patient.

Let ladies but make trial at one accouchement of such a plan, and they will find their reward if only in a very tangible increase of comfort. They will not be able so easily to estimate its value in ensuring their safety, but I speak from extensive experience when I say that in no single confinement case in which I have

used antiseptic precautions have I seen an attack of any contagious fever, which is more than I can say for equal numbers not so treated. And my experience is only that of thousands of physicians, as witness the frequent letters and articles in current medical literature.

Finally, by way not of apology but of explanation, I may be permitted to say that as to antiseptic diapers, confinement sheets and lotiforms, I have spoken only of those made by the Sanitary Wood Wool Company, and that simply because they are I believe the only scientific antiseptic articles of that kind suited for popular use in the market. Notwithstanding the fact that for reasons already stated the injections and lotions made by the use of the lotiforms are perfectly safe, I have requested the Company, as a further safeguard, to colour the lotiforms with a soluble pigment, so that the lotion made therefrom may have a pink hue; and have further suggested that some unpalatable ingredient be added to the cotton wool. Both recommendations have been carried out, and thus all risk of the lotion being by mistake or carelessness used as a beverage (for solutions of corrosive sublimate are colourless and tasteless) has been effectually obviated.

I need scarcely add that the hands of nurses when in attendance on accouchement should be frequently dipped in an antiseptic lotion.











