

And now, with extreme sincerity and candor, I leave the contents of this article to the gracious consideration of those who may honestly and conscientiously differ from me on so momentous a subject; and to those whom I hope to convert to a belief in the doctrines expressed. And if I have any sympathizers who think and feel as I do myself on this intricate but humane question of science (and involving for the most part but charitable labor), to imagine their existence and presence is a most grateful thought indeed.


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## LECTURES.

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### ON DISINFECTION OF THE HANDS.

By PROFESSOR TARNIER, PARIS, FRANCE.  
PROFESSOR OF PARIS FACULTY.

IN recommencing our clinical lessons this year we could not think of a more important subject than this one of disinfection of the hands. Every day you see us all take the greatest care in our aseptic toilet of the hands. Why? It is admitted now throughout the world that the most important matter in keeping woman in confinement healthy and well, is that her genital organs should be free from all pathogenic microbes, and that the hands of the accoucheur be clean. If not, he can certainly carry hurtful microorganisms into the organs. The vaginal touch, then, is dangerous without antiseptic precautions. Yes, certain authors think that it is better not to make use of the touch during labor. This we cannot agree with, for it gives the most indispensable information of the dilatation, and of the possible morbid incidents that can be arrested. We have only to mention prolapse of the cord to prove this. Without the touch obstetrics would be a useless art. But it certainly must be practiced with precautions that cannot be too aseptic. We must not teach you to despise touch, without which you will make the gravest errors of diagnosis, but we should teach the best way to clean your hands, which in our present mode of life are always covered with germs. Our laboratory experiments will prove this. You have only to put one finger into a culture liquid and see the large colony of microbes that will develop in it. When intern to the maternity we tried to make some studies on puerperal fever and could not understand then why it was that on certain days all the women in the wards would become infected while those who had been in some time were all right. We know now that it was dirty hands. Dr. Maygrier reported the following case seen in 1891: A woman who was perfectly well went to be confined at a midwife's, whose hands were most likely septic, for this person was taken with fever and died. A second case, then a third one, went the same way. A fourth woman was to be confined but the midwife, after making an examination became frightened, and sent this last case to another house to be confined. The result was the same—septicæmia and death. This was evident proof of infection in this woman, which determined a number of deaths in healthy women.

What, then, are the conditions under which the touch can be practiced without danger? First, the epiderm must be intact. If you have suppuration on any finger you should not practice accouchments until it is completely cured. Last



year one of our hospital women had a felon and infected three or four women. Several years ago a doctor had quite an epidemic of puerperal fever and sought in vain the cause. Dr. Siréday, called in consultation, noticed that the physician had a boil on his neck, and he probably scratched it or touched it during his service and thus carried the infection to the women in confinement. All the sources of infection in the family or hospital service must be watched for. And none should perform dissection, or carry on pathological studies (pathological anatomy) when engaged in confinement cases; surgery is, of course, almost as bad.

Semmelweiss, in the Vienna hospital, had two services for accouchment, one of which had students who dissected at the same time. In this service he soon had puerperal fever, but on making a rule not to allow students while dissecting to frequent his wards, and insisting on disinfection of the hands with chloride of lime solutions, he got rid of the infection. At that time he was not believed, but to-day they are raising a statue to his memory. If you have the slightest scratch on your fingers cover it with iodoformed collodion. You will thus protect yourself from the vagino-vulvar liquids, no matter what state they may be in, and you will prevent your patient from contracting any dangerous trouble, through your fault.

You must not only cut your nails short, but be careful in cleaning them. The files used are not above reproach, for you may scratch with these points under the nail and make a little opening. It is best to use a wet, clean cloth which you can introduce under one corner of the nails. Or, make use of bone, ivory or wooden, nail cleaners. If any very extra cleanliness is wanted for Cæsarean operations it would be well to scrape the back of the nails also.

For washing the hands, the soaps called "antiseptic" are little if any better than good, ordinary soap. Use a brush as well, and rub it over every part of the hands. Even after the most careful cleansing the hands are rarely free of micro-organisms. Forester (of Amsterdam) made some studies on this point. He washed his hands carefully, and then put them in a concentrated solution of boric acid, and then into a solution of one and one-half per cent. of carbolic acid, and yet he got cultures of microbes from them. Afterward he used Van Swieten's solution (one in one thousand of bichloride of mercury) which he found to be the best antiseptic. We should like to mention here that we proposed first to wash the hands in this solution, at a congress held in London ten years ago, as you can see by the accounts of it published at the time. But we recently made some experiments that prove that a solution of corrosive sublimate (twenty centigrams for one thousand grammes) is as efficacious as the one of one gramme for one thousand. In this clinic we are in the habit of soaping the hands well in a solution of forty centigrams to one thousand of water, and feel sure it is strong enough to obtain good results. It has been said that the sublimate combines with the soap and weakens the action, but we get rid of this by having the solution run on to our hands from a small spigot, and the constant running away of the solution, over the hands, prevents the decomposition of the sublimate. We have taken the hands of the *chef de clinique* constantly and put them into culture liquids which have remained sterile. Kummel found that carbolic acid at five per cent. was also efficacious but in practice it is too caustic. Fürbinger goes through the following operations: (1) Washing the hands with soap. (2) Brushing. (3) Washing them with alcohol. (4) Again with sublimate solution. We have



adopted the idea of using alcohol and arrange so that a tablespoonful is used on the hands before using the bichloride. Lately an accoucheur of Kiew, Dr. Belaiëff, recommends us to put our hands first into Prussian blue, and then wash and rub them with soap until we get all the color off. He thinks that it is only by brushing and washing for a long time that proper antiseptis is accomplished. It would certainly be a good plan to do this in a large accouchment service, so that the professors would be sure that the hands were properly washed, but it takes a quarter of an hour to get the blue off by brushing, and we prefer permanganate of potassium solution (one in one thousand). This gives a brown tint to the hands and this is what we use to put the students' hands into. If after having done so the whole hand is uniformly brown, we can be sure they have been properly washed, but if we find some white spots on them it is because they have not been well done, and we make them recommence. Dr. Kelly, an American accoucheur, has written on permanganate of potassium as a good microbicide in washing the hands.

To sum up: (1) Wash your hands and brush them with soap under the spigot, from which is running water containing forty centigrams of corrosive sublimate to one thousand of water. (2) Continue under this solution until no more soap is on the hands. (3) Clean the nails well. (4) Wash the hands with alcohol. (5) Rinse them again under the sublimate solution. (6) Put them into the permanganate of potassium solution (one per one thousand).

But you will ask me how you are to get rid of the brown color made by the permanganate? This is easy. After you have finished put them into a solution of bisulphite of soda, and you will have the satisfaction of having perfectly aseptic hands in the service, and on leaving the wards have your hands whiter than when you came in.

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## TRANSACTIONS.

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### DETROIT MEDICAL AND LIBRARY ASSOCIATION.

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STATED MEETING, JANUARY 23, 1893.

THE PRESIDENT, FREDERICK W. MANN, M. D., IN THE CHAIR.

#### PATHOLOGICAL SPECIMENS.

DR. T. A. MCGRAW exhibited part of a thyroid gland removed from a patient sixty years of age. It had interfered seriously both with swallowing and breathing. It had grown very rapidly and was a colloid cystic degeneration of the gland. The enlargement extended below the sternum and not until that part was removed did she get relief from the difficult breathing.

DR. J. H. CARSTENS: Is it safe to remove the whole thyroid gland?

DR. MCGRAW: It is better to always leave a part of the gland.

#### READING OF PAPERS.

DR. H. O. WALKER read a paper entitled "Hæmorrhoids."

DR. D. LAFERTE: These patients are frequently dismissed too lightly. It is undoubtedly the proper thing to make a thorough examination, and if this be

