

Section on Practical Pharmacy and Dispensing

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SANITATION IN PHARMACY.

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In my practical experience as a pharmacist I have observed that the necessity of cleanliness is more urgent in our business than in any other. At the June, 1911, meeting of the New York State Pharmaceutical Association, held at Alexandria Bay, I presented a paper entitled "The Essentials of a Reputable Pharmacist," in which I mentioned among other things, the necessity of sanitary conditions in the pharmacy. In that paper I laid out certain rules and among those rules I called special attention to sanitation.

The definition of the word sanitation is, devising means for promoting public health and the removal of elements injurious to health. We pharmacists must by all means pay more attention to cleanliness than an ordinary storekeeper. We do not want to classify ourselves with them but since the enactment of the pure food law the sanitary conditions of groceries, delicatessen stores, dairies and butcher stores, are far superior to some drug stores.

What is the result of improper sanitary conditions?—disease, which is not a necessity in the world. It is an indication that something is wrong. Call this something what you may, it can all be included in one term, "dirt." Dirt is the abomination of humanity. It is the cause of most of the diseases and ailments of mankind. Whenever cleanliness is not observed, sickness is rampant. The bubonic plague in India and China, the sleeping sickness of Africa, the cholera and smallpox of Eastern Europe, the yellow fever of tropical America are all products of unsanitary conditions. The Great Plague and Black Death which spread over Europe early in the thirteenth century, snuffed out millions of lives, taking their most violent hold upon those places where streets were narrow and congested, houses ill-kept and dirt thickest. What is causing the great infant mortality, the great unnecessary murder of civilized communities?—Crowded conditions, slums, bad milk and impure air. What are all these but varieties of dirt? Think of conditions existing in Cuba and the Philippines, before the United States Government took possession. The white man could not live there. Yellow fever and other diseases were abundant, but now sanitary conditions are far better and diseases become rarer and rarer every day.

What is the greatest function any health department has to serve? That of compelling people to observe the most ordinary rules of cleanliness and sanitary conditions. The necessity of absolute cleanliness in all phases of life, at all times, is impressing itself more and more thoroughly upon all thinking beings. Pure

food laws are being passed, sanitary care of cows and milk is being enforced, clean streets are called for, disposal of garbage is being facilitated—everywhere improvements are being made. Sanitary bakeries are being erected, Red Cross barber shops opened, clean grocery stores, meat shops and delicatessen stores are called for. If it is imperative that the grocers and butchers keep sanitary conditions, how much more so is it for the druggist? He comes in contact with people at the most critical periods of their lives. At those times absolute cleanliness is essential. If improper conditions can kill a healthy person, how much more likely is it to do so, when the system is already poisoned with impurities, and already exhausted by disease.

The following is an extract from an article published not long ago in one of the California medical journals, calling attention to a dirty practice in many bakery stores: "The paper for wrapping cakes, etc., is in sheets, and when the saleswoman reaches for a sheet, she usually holds the loaf of bread or cake in the left hand and reaches for the sheet with her right hand, wetting her thumb with saliva, to facilitate the quick detaching of the top sheet on the pile. Then, frequently that part of the paper which she has moistened with her spittle is turned in and wrapped against the food that is later eaten, thus transferring some of the sputum to other people. One can imagine the danger of such a practice from an example seen, where a woman known to be syphilitic did precisely this thing."

The use of paper in rolls would go far to stop this practice, for there is not the necessity to wet the finger in order to separate one sheet from another.

I could mention a case where a physician lost a valuable patient on account of the unsanitary condition of his office. While the patient was perfectly satisfied with the treatment of the physician, the general appearance of the office disgusted him. A trained nurse, a friend of mine, told me of several instances where she was compelled to change the druggist on account of the filthy and dirty conditions of the store.

A few facts which I wish to bring out in reference to sanitation in the department bear upon the subject of sterilization as a means of bringing about proper sanitation in different instances. I shall mention as the first example the common abuse which is practiced in almost every pharmacy, and yet has been given little or no attention from the standpoint of sanitation, the returned magnesia and other medicine bottles. The bottle which has been in the sick room is returned to the pharmacy where it is usually washed in the ordinary way, refilled and then offered for sale to someone else. This bottle may have been in a room where some contagious disease was prevalent and allowed to remain, and by a natural course of events the disease germs find their way in and around the bottle, especially the rubber washer. Ordinary washing and scouring with hot water is not satisfactory for destroying pathogenic germs. All bottles so returned should be thoroughly sterilized as well as cleansed, and for this purpose I have devised a formaldehyde dry sterilizer, consisting of a zinc or tin cabinet with perforated shelves, upon which the bottles can be placed side by side. The solution (formaldehyde potassium permanganate) is placed at the bottom of the cabinet,

and the door tightly closed and sealed by means of rubber or leather strips (such as are used for weather strips). The generation of formaldehyde gas then goes on and sterilization is usually complete in about one hour or more.

This box can be constructed from wood, but should be metal lined, and under any circumstances must be hermetically sealed to block the escape of gas. The cost is trivial; it does not require attention, and as there is no heat or effervescence it is absolutely safe. In fact it is a simple process of fumigation, such as is practiced by the Health Department of New York. Any utensil or receptacle may be so fumigated.

Another point that is worth while mentioned is keeping the upper rim of the mouth of a bottle clean and dust free, which can be done by placing a ring of paper or celluloid cap over the mouth. Then when the medicine is poured out there is no contamination. The rings are made of celluloid chips, and with little trouble to the pharmacist.

The glass-top counter is by all means the ideal fixture in the perscription department and can be easily cleaned and sterilized when necessary.

Cleaning of mortars and pestles by scouring and burning out by pouring into the mortar about 1 oz. of denatured alcohol and lighting until consumed makes them absolutely sterile.

Careful cleaning of spatulas and ointment boards (which should always be of glass or porcelain) because ointments should be sterile, as well as in any other surgical dressing.

Most important of all are solutions prepared for subcutaneous and deep injection, such as cocaine solution, mercury salicylate in albolene, camphor and oil. When preparing these see that the vehicle is scrupulously clean and free from any visible foreign substance. The medical journals are full of accounts recording deaths due to carelessly prepared solutions for hypodermic use.

Paper towels are more sanitary than cotton ones, as they are destroyed after use and are inexpensive.

In making pill masses and rolling out pills it has been the routine habit to take up the divided mass and roll between the fingers to bring about the spheroid shape. In my opinion this is a very unsanitary and very filthy habit, as hands cannot be kept clean enough to insure the patient against swallowing some germs or filth that may have found its way into the pill in manipulation. I use very soft tissue paper in the hands and pick up the mass or pill and roll between the paper in the same manner as without the paper, which in my opinion is a cleaner and safer method.

In counting out pills, tablets and capsules from the original container into the dispensing receptacle never drop into the hands but directly into the box or cover thereof; in other words do not handle the pill or tablet but pass from one container into the other.

Many other minor points could be mentioned but are self-evident; such as a proper washing sink for employees, clean towels; condition of shelves and floor, etc. Absolute cleanliness should prevail in the entire makeup of your establishment. I bring this before you as a warning, as a suggestion to bear in mind that

sanitation should be equal to your accuracy in dispensing. That no compulsory sanitary code has ever been enforced affecting pharmacists seems to me to have been the result of oversight. In my humble opinion there should be a set of rules adopted by the Board of Pharmacy covering just such points as I have laid before you, and enforced as are the other laws. But, inasmuch as these do not exist as yet and the matter is left entirely to the discretion of each individual pharmacist, as a matter of fair play to yourself, employees and especially to the public, a reformation of present lax sanitary observances is by all means necessary. We, as professional men, dealing with the sick and those who are at our mercy, must needs follow in the naturally rapid strides made by "up-to-date" scientists and carry out the simple rules of sanitation and sterilization, and not until then do we fulfil our duty to the best of our ability, nor can we conscientiously state that we have given the public the best that is in us and the best for their own good and welfare.

A HOMEMADE STILL FOR RECOVERY OF ALCOHOL.

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The following simple and inexpensive piece of apparatus has been found efficient for the recovery of alcohol from the weak percolates obtained in the manufacture of fluidextracts, and from similar liquids.

The advantages of the still are its cheapness, and the fact that the liquid can be evaporated directly from a porcelain evaporating dish, thus avoiding the use of a flask.

The apparatus is composed of two enameled iron pans, one constituting the still body, and the other of slightly smaller diameter, so that when the latter is inverted its rim will fit neatly into the larger pan about one-third of the distance from the bottom of the latter. (Fig. 1.)

Through the bottom of the smaller pan, which constitutes the dome of the still, is punched a hole about 2.5 cm. in diameter into which a perforated cork is tightly inserted, and made vapor-tight by a luting of plaster of paris. Through the cork passes a curved glass tube which is connected with a Liebig or other condenser.

A second similar opening serves for the addition of fresh liquid, or for the insertion of a thermometer.

As a support for the evaporating dish there is used an ordinary pieplate in the bottom of which is cut a circular opening of a diameter sufficient to hold the evaporating dish, so that the bottom of the latter will be elevated about 1 to 2 cm. above the bottom of the still.

The evaporating dish and contents having been placed in position, the dome is placed over it and water poured into the lower dish until the level reaches above the margin of the dome, the water acting as a bath and also as a seal to prevent the escape of vapor.