

*Thirteenth Safety Congress***Lesson XI. Slight Ailments**

1. We may keep in the house as home remedies: castor oil, castoria, talcum powder, sterile vaseline, a mixture of mag. sulph. 1-4 lb., alcohol, 1-4 pt., and water 1-2 pt., bandages, sterile gauze and cotton.
2. Drugs that may be dangerous or habit-forming are: carbolic acid; tr. iodine; concentrated lye; opiates as morphine, paregoric, laudanum, chloral, cocaine, headache powders, patent medicines, whiskey, gin, etc.
3. Constipation; diarrhoea; vomiting; coughs and colds; fits; cuts, bruises sprains, burns, apply wet dressing of soda bicarb. and water or mag. sulph. alc. and water as above. Keep fingers out of wounds or burns.
4. When in doubt always consult family doctor.
5. Many severe or dangerous kinds of sickness began as slight ones. Don't delay too long.

Lesson XII. Health Habits—A Review

1. Best formed during childhood or infancy.
2. Never too late to begin.
3. The basis of all real health.
4. A few bad habits: tobacco, alcohol, opium or cocaine, headache powder, aspirin, too much medicine, patent medicines, late hours, over work or over play, over eating, going without breakfast, hasty eating, sitting, walking or standing in bad position; candy, ice cream or fruit between meals; worry, fretting, scolding, anger, sulking, fault-finding, despondency, thinking too much about one's own sickness.
5. A few habits worth forming: regular times for work, play, rest, eating, sleep, and bowel movement; sitting, standing or walking in a position easily erect; eating a mixed diet of fats, starches, and sugars, meat or milk, and vegetables; eating sweets and candy only at the end of a sensible meal; sleeping by the open window; the daily tooth-brushing and the daily bath; never eating with dirty hands or after touching anything unclean, or after touching the sick. Scrub hands first.

Lesson XIII. The Board of Health and Health Officer

1. They and their laws are to help keep us well.
2. We must help them all we can.
3. They will ask us to clean our cellar, fix our drain, clean our stable or hen house, clean our back yard, keep garbage in covered can, not use water from dangerous well or spring, not to sell meat or milk that is dangerous, etc.
4. Contagious diseases: how caught; how prevented; names.
5. Names of common ones: measles, mumps, chicken pox, scarlet fever, diphtheria, small pox, whooping-cough, german measles.
6. Quarantine: why necessary; duties of health officer; duties of every one to help; disinfection; uses of antitoxin.

HOW TO MAKE A SANITARY SURVEY OF AN INDUSTRIAL PLANT

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Most of us recognize sanitary conditions in a general way, but only the expert, who has spent years studying this particular subject and who then serves as an apprentice, is competent to solve the many technical sanitary problems found in industry today.

Every plant has its problems peculiar to itself. One may be thoroughly qualified to make a sanitary survey in certain types of industries, but thoroughly disqualified to make a complete and scientific survey in others.

In the absence of a full time or part time sanitary engineer, as a rule the physicians in industry are consulted or held responsible for sanitary conditions, even though this specialty requires just as much time, if done properly, as that given to safety engineering.

Before attempting to answer the question propounded, one should familiarize himself just as thoroughly as possible with the standard requirements of sanitation. These come under the heading of codes or

laws which either recommend or demand that certain conditions shall or must be as stated. With this information at hand it is comparatively easy to make a report which excludes the highly technical data. Let me dispose of the technical data immediately by saying that all such technical problems should be considered just as medical and surgical problems should be considered. If you have a surgical problem, call the surgeon. If you have a case of trachoma or a foreign body in the anterior or posterior chamber of the eye, call an eye specialist. In other words, if you have health hazards which are beyond your ability to cope with, seek the services of one who is thoroughly competent, or learn by study and consultation how similar problems are solved elsewhere.

The fundamental standard requirements for an industrial plant consider general cleanliness, drinking water, ventilation, lighting, exhaust systems, toilets, cuspidors, wash rooms, dressing rooms, rest rooms and restaurants.

In order to become familiar with the above it is imperative that you know your plant. This can only be accomplished by frequent visits through it. The safety engineer does not and cannot make a complete safety inspection in one visit. The wide awake observer can always find some accident hazards, regardless of the number of visits he makes. The sanitary inspector is not at all unlike him. To depend upon a guide to usher you from plant to plant or from one department to another cannot be absolutely satisfactory, because he may purposely or inadvertently avoid places which he knows to be hopelessly beyond favorable comment. I once had a doctor tell me that he was invited to make a sanitary inspection tour, but that he was led through the plant so fast that he got his cue before fairly under way. He continued to say that he felt sure, after completing the inspection in a limited time, that his guide had undoubtedly avoided places which were not open for public inspection. Although this may not have been true, he received the unfavorable impression just the same.

If you are a stranger in a strange plant, camp on the job long enough to become familiar with every nook and crook of the plant. This is an advantage that the industrial physician has over the casual inspector who is not thoroughly qualified.

General Cleanliness

In taking up our fundamental standard requirements we find that it is general cleanliness which first attracts and pleases the eye. A clean plant is always impressive. While making a survey don't forget to interview some of the employees. When they have been thoroughly sold they take pride in showing you through the plant. Just recently I listened to an enthusiastic report by a foreman who had visited a factory in a small, isolated inland town. His enthusiasm was a manifestation of the enthusiasm demonstrated to him by the employees. He reported the plant free from dirt, and the employees ever ready to explain how the

plant was kept so clean. This foreman is not a sanitary engineer, nor did he visit this plant with the idea of even making a casual inspection, but general cleanliness stood out so prominently that he apparently saw nothing else. He said the floors were spotless. Not even a drop of oil was allowed to run off the oil can spout to the floor when the machines were oiled. The cleanliness of the blacksmith shop, he stated, would compare favorably with the cleanliness of any well regulated medical department. Even the ceiling of the round house was painted white and kept in this condition. So proud are the management and the employees of their clean plant that it is always open for inspection even on Sundays. So, while making a survey, ascertain the entire personnel's attitude on sanitation. If the management is indifferent and the employees spit all over the floors than general cleanliness is bound to be neglected.

Drinking Water

The supply of drinking water of any plant must necessarily be pure. First, determine its source. If water from the city mains is used the necessity for its inspection is not so urgent, because this is daily examined by a chemist at the water-works plant under supervision of the local or state health departments. If water from a privately owned driven well is used, it should be inspected at frequent intervals and a sample of this water should be collected by the inspector and sent away for an examination.

The drinking of plenty of water is highly essential, therefore note the number of drinking fountains. Are they conveniently located and are they of the sanitary type? Are the conditions around the fountains conducive to free drinking?

Ventilation

One important requirement of a sanitary plant is good ventilation. See that the air is in motion. Is there fresh air entering the room constantly while the bad air is being taken out? In the summer time, it is comparatively easy to determine whether or not the air is moving. Witness the lifting of the blinds or the moving of any loose paper about the room. In winter, however, movement of the air is not so easily detected.

Look to see if there is a ventilating system of some kind. If there is some central system run by motor and fans, see if it really works. There are various ways in which to determine the effectiveness of a system. If there is a register near the ceiling where air is being drawn from the room, hold a very thin strip of tissue paper before the register. If the system is functioning properly the paper will be drawn into the opening of the register. Another method of determining air movement is to close the room tight and hold a lighted match at the crack under the door. If the motion is right, the flame of the match will be extinguished immediately. Note carefully the effectiveness of systems which are supposed to force air into and, at the same time, draw air out of a room or building.

Is the air in the room of the proper temperature? The required temperature of a room depends upon the kind of work which is being done. The range of temperature should be from 60 F. to 72 F. The temperature of the air in the offices should be within the range of 65 F. to 70 F. In wash, dressing, and locker rooms during working hours, 60 to 70 F.; and in toilet rooms 55 to 69 F. In rooms where hard manual labor is done the temperature, of course, should be much lower than that of an office where the work is sedentary. In order that the temperature may be kept as nearly right as possible, and that the employees may be kept interested in having a temperature which is neither too low nor too high, see that thermometers are placed at a convenient height at various places about the plant. Be sure to find thermometers which register correct temperatures. Those which do not should be discarded. The relative humidity of the air must not exceed 65 per cent, except when outside weather conditions prevent or when there is a special reason due to work in the room. If there are fumes resulting from any cause, special ventilating systems should be installed.

Illumination

As you pass through the plant do you find it difficult to see? Is there enough light, natural or artificial, to enable the employees to work without eye strain? This may be determined by the use of the valuable instrument, the foot candlemeter, which will register illumination intensity in foot candles. With the use of this instrument and a standard table showing the exact candle power required for the various kinds of work an accurate check can be made. Then, note the distribution of light on the work. Are the shades on the employees' lamps at the right angle? If this desk were turned another way would the shadow across this man's paper be better illuminated? If that reflector were turned at a slightly different angle should the glare on that glazed paper be removed? All the various conditions should be noted, and in order to see these things the inspector must be busy every second with active eye and brain.

Exhaust Systems

There are many operations in industries which generate various kinds of dusts, gases, fumes and vapors. These dusts, gases, fumes and vapors cause, directly or indirectly, many occupational diseases. Note if there is an exhaust system. If there is one does it function properly?

Toilets

Toilets need special consideration because they are too often sadly neglected. Before making your direct inspection here make sure to ascertain the number of men and the number of women in each department or on each floor. The number of toilets necessary for each sex can be determined readily by referring to a building or industrial code.

The ratio of the number of toilets to the number of people varies from 1 to 15 to 1 to 25. In your inspection of the toilets note carefully the cleanliness, the ventilation, the lighting and the temperature. Toilets should be cleaned every day. Ventilation should be adequate without producing drafts. Natural ventilation by the use of windows which open to the out door air should be used wherever possible. If such ventilation is not available, then ascertain if there is an adequate exhaust system working. Natural lighting by window or skylight is advisable, but adequate artificial lighting should be available whenever needed. The temperature during cold months should never be below 50 degrees.

Cuspidors

Note the amount of promiscuous spitting, for herein lies the danger of expectoration. After it dries on the floor, walls, or equipment, it is potentially dangerous because it can be converted into dust which in turn can easily be carried to an innocent host. Take particular notice of all dark and dirty corners. Remember that any place that is not sanitary invites spitting.

Not only should cuspidors be conveniently placed but there should be a sufficient number. This number depends mainly upon the number of expectorating employees.

These cuspidors should be cleaned every day. Whether or not this is done can be readily learned from the employees. The degree of fullness of the cuspidors is a good index as well. Note if the cuspidors contain water. The use of a germicide in the water is optional.

Wash Rooms

As you enter the washroom does it impress you as being clean or dirty? Are there paper towels strewn over the floors? Is there water running or standing on the floor? Are the windows clean? These questions are important; however, there are other things to be noted.

First, is there a sufficient number of wash basins? This should be determined by the number of employees using the basins in question and by the type of work performed. One basin to 25 people may be sufficient in some cases, but in industries where food is prepared or manufactured, or in glue factories, foundries, machine shops and other industries where the employees become greasy or dirty, one wash basin to every five employees is recommended. The basins of every washroom should be cleaned immediately after use. A large trough without stopper, where each person washes in running water from an individual faucet is considered better than individual basins or towels. In connection with the above not if individual towels are used. How do the conditions check up with the requirements of the state code?

Has the washroom both hot and cold running water? It should have. Are there enough shower baths for the men? These men, coming hot and perspiring from their work, should be provided with the facilities

for a hot shower followed by a cold rinse to close the pores of their skin and thus prevent their taking cold. Is there enough light in this room?

The floor of the washroom should be of a smooth surface which is not porous in the slightest degree. This is necessary that the water may not sink into the floor to become stagnant and unsanitary.

Dressing Rooms, Rest Rooms, and Locker Rooms

In order that the employees can give attention to personal hygiene there should be dressing rooms, rest rooms, and locker rooms. While inspecting, these should be looked for and notations made regarding their size, proper lighting, ventilation and the temperature. Cleanliness is very essential here so that they should meet the strict requirements of any sanitary code.

Restaurants

Carefully inspect the restaurant maintained for the employees. At all times this restaurant should be run under the most sanitary conditions. Each person who cooks, serves, or handles food or utensils in any way, should be given a thorough examination every three or four months. Inquire if this is being done. If possible, inspect the restaurant when dishes are being washed. Note whether or not each dish is sterilized in scalding water or steam. Send a sample of the milk used, preferably to the health department, to be tested.

Flies are a known menace to health; note whether or not they are excluded by proper precautions.

In order to get a thorough report on the food conditions notify your local or state health department to have an investigation conducted by one of their food inspectors.

Do these things:

- 1—Acquaint yourself as thoroughly as possible with the fundamental standard sanitary requirements.
- 2—Know your plant.
- 3—Seek expert advice whenever necessary.

PHYSIOTHERAPY AND PHYSIOTHERAPEUTIC RECONSTRUCTION

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We owe our origin and upkeep to the energy of the sun. The study of how we originated from, and how we are maintained by, the sun's energy is the subject matter of physiology. The study of the purposeful application of the sun's energy to the alleviation of disease and to the reconstruction of the maimed human organism, is the subject of physiotherapy.