

NATIONAL RESEARCH COUNCIL
DIV. OF MED. SCIENCES
Office of Medical Inquiries



Clara

gives **BENZOL**
the run around

**“I
don’t
care,”**

said Clara Careliddle.



“I’ve got a date with Jim tonight. I won’t have time for my hair-do if I go to the doctor for that examination. I’ll skip it. Once won’t make any difference.”

Clara was on her first job, cementing crepe rubber soles in a shoe factory. Every 2 weeks, the factory doctor and Miss Fairly, the nurse, examined the girls in Clara’s room.

This seemed foolish to Clara. With her good health and high spirits, she couldn’t imagine what it was like to be sick.



About a week later, Clara had a nosebleed at work. Not a bad one—but the foreman sent her right up to Miss Fairly.

“He sure is fussy about a nosebleed,” Clara said.

“He’s right, Clara. A nosebleed *may* mean you’ve been breathing too much benzol which is used to make the rubber cement. Benzol vapor can make you sick. That’s why we insist on regular examinations for workers who use materials containing benzol. You missed your last one. Now let’s get busy on that check-up.”

Clara is one of about 30,000 American workers whose jobs call for the use of benzol in some form. Thousands more are employed to manufacture this valuable solvent. A lot of people would be out of work if there were no benzol.

Benzol or benzene is a “good mixer” for many materials that are not soluble in water or other solvents. It is a colorless liquid with a pleasant but penetrating odor.



Benzol is used in the manufacture of rubber, rubber goods, linoleum, celluloid, artificial leather, paint, varnish, shellac, lacquer, dyes, and plastics. It is also used to blend motor fuels, extract oils and fats, remove paints, and clean printing forms.

Rubber cement containing benzol is used in many other jobs where a good waterproof adhesive is needed.

After benzol has done its work as a solvent, it evaporates quickly, leaving the material it was mixed with to dry or harden. The vapor is poisonous and heavier than air. So it must be carried out of range of the worker in order to prevent exposing him.

Acute Benzol Poisoning comes from breathing, in a few minutes, very large amounts of the vapor. This seldom happens. But it can happen when accidents occur on jobs where huge quantities of benzol are handled, as in manufacturing benzol or blending motor fuels. Carelessness in tending or repairing the equipment is usually the cause of such accidents.

When machines which contained benzol are cleaned, the vapor must be removed before the worker enters the place. The worker must wear an air-line respirator and a safety belt. A crew trained to watch for signs of acute benzol poisoning should stand by while the cleaning is going on.

Acute benzol poisoning makes a worker drowsy and dizzy; he staggers, vomits, and passes out. All in a very few minutes. The safety crew must watch for these signs, get him into the fresh air, and give first aid, or he will die.

Chronic Benzol Poisoning comes from breathing *small* amounts of vapor every day. Not all workers so exposed become ill. If it goes on long enough without being noticed, it may at last have the same effect as an acute attack. It also makes people more susceptible to infections like pneumonia, blood poisoning, and other germ diseases.

Little by little, benzol attacks the blood, the blood vessels, and the blood-forming

organs of the body. The bone marrow where the body begins to manufacture its blood supply is affected. This makes it hard for the worker to produce new white blood cells—the body's defense army. Soon there may not be enough white cells to keep him in good health.

Unusual Bleeding is the first warning sign of chronic benzol poisoning that a worker is likely to notice. He may see purplish spots under his skin. This is where small blood vessels have broken down and are bleeding under the surface. He may have a sudden nosebleed. Or his gums may get sore and bleed. He may cough up blood. He may notice bleeding when his bowels move. Women may notice blood at an unusual time and mistake it for menstruation.

Even Before these signs appear, the doctor can tell when a worker exposed to benzol is beginning to feel the effects of the poison. He does this by careful medical examination, including count of the blood cells.



Breathing a little benzol every day may cause other discomforts before you notice unusual bleeding. It may make you feel tired, sleepy, and dizzy. It may give you a headache, bother your eyes, or upset your stomach and bowels.

A great many other sicknesses begin with the same troubles. They may not mean benzol poisoning. But they are Nature's way of telling you that something is wrong. They don't tell *what* is wrong. It takes a doctor to find that out.

It will pay you to pay attention to these little troubles. Go to the doctor if you notice them. You may save yourself a long, costly illness by doing so.

Your skin contains protective oils; it can be "degreased" by benzol just as are the hides used in leather goods. Benzol makes your hands dry, scaly, and sore; then they are easy marks for infection.

● **WAYS TO PREVENT BENZOL POISONING**

Closed Machines should be used wherever possible to handle benzol or materials containing it. These should be inspected regularly for leaks or breaks.

Workrooms should have good general ventilation at all times. Samples of the air should be tested regularly.

Exhaust Fans should be put in near jobs where benzol-containing materials cannot be handled in closed machines.

Air-line Respirators and Safety Belts should be provided for workers who have to enter closed machines or rooms.

Workers Should Be Examined by a Doctor before they are employed on jobs where benzol is used. People with heart trouble, tuberculosis, anemia, or a tendency to bleed easily should not be employed

on such jobs. Young workers under 18 years of age and pregnant women should also be kept off jobs exposed to benzol.

Regular Medical Examinations on the Job, including careful blood tests, should be given every worker exposed to benzol.

● **WARNINGS FOR WORKERS**

Do Not Spill Benzol or Benzol-Containing Materials. Keep all containers tightly closed when not in use.

Wear Your Respirator and Belt whenever you have to enter a closed machine or place where benzol has been used.

Keep Your Hands Out of Benzol As Much As Possible.

Report to the Nurse or Doctor at your plant (or see your own doctor) for any signs of benzol poisoning. *Watch out for unusual bleeding.*

A little care will keep benzol
in its place—and you on the job!



Workers' Health Series

- No. 1** But Flu Is Tougher
- No. 2** Leonard's Appendix—And How It Burst
- No. 3** KO by CO Gas
- No. 4** Clara Gives Benzol the Run Around
- No. 5** Trouble in the Midriff

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