Shell Haven Medical Centre

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Today the concept of "occupational medicine" is that of Thackrah and other pioneers, but embracing the experience and practice gained in the industrial world of the past 100 years. The medical centre at Shell Haven, Essex, which has been built to cater for 2,000 permanent employees at the refinery and up to 2,000 contractors' employees working on extensions to the refinery, would, we venture to think, have pleased Thackrah. For the Shell Haven Medical Centre, in addition to achieving its primary purpose, is fitted to be the expression of that other aspect of occupational medicine lost sight of for a time but today taking its proper place again—research by the "ordinary" industrial medical officer. A well planned centre of bricks and mortar, an adequate staff, and several thousand operatives exposed to certain definable hazards all provide his natural experimental milieu.

The Shell Haven Medical Centre is a one-storey building, planned and built in such a way that modifications or additions can easily be made as future needs demand. The most modern devices have been employed to heat, light, ventilate, and, most important, make it sound-proof.

The first impression as one enters the Centre—and this must also affect the patient—is the exhilarating use of colour. Strong blues and yellows with one flame coloured wall confront the patient as he enters the hall and presses a button to announce his arrival. As soon as the doctor or nurse is ready to see him a light glows and he immediately goes for his treatment or interview. This procedure is in operation throughout the 24 hours. The

treatment room—coloured less vividly, but not dully, in blue and cream—is divided into two units, by cupboards containing drugs and dressings, for minor treatments and for clean treatments. In the former, infected wounds are dressed, skin diseases treated, all by the "no-touch" technique. In the latter, clean wounds are sutured, injections given. A corner of the minor treatment end is curtained off so that eye injuries may be examined and treated.

Careful arrangements have been made for the reception of the seriously injured. Ambulances draw up in a covered bay leading to a quiet, darkened recovery room. Doors from the recovery room open into the treatment room on one side and into the x-ray room on the other. There are all the essentials for resuscitation, including a "minuteman" resuscitator. Afterwards the patient can be given an x-ray examination and first-aid treatment and then sent home or to hospital. The exact position of the recovery room in relation to the rest of the Centre is important, because the presence of a seriously injured man is not known to those attending for minor ailments.

There are certain well recognized hazards in an oil refinery, and a laboratory and x-ray unit are essential to

the preventive aspect of medicine there. At Shell Haven routine chest films are taken of all who join the company and all who go overseas and in addition of tetraethyl lead handlers, chemical product handlers, chemical plumbers, benzene workers, alkylate workers, and tank cleaners. In the laboratory full blood counts are performed at six-monthly intervals on tetraethyl lead workers, benzene workers, chemical product handlers, chemical plumbers (on whom stipple counts are also done), tank cleaners, and industrial radiographers. Routine urine examinations are also performed on all these groups of workers, and as new processes are developed the medical officer joins the consultations with the planners so that new hazards may be anticipated and, if necessary, new laboratory control be instituted in those workers exposed to new and perhaps unpredictable hazards to health.

Certain auxiliary services also find a place in the medical centre: these are physiotherapy, an ophthalmological service, and a dental service. Each specialty has its own set of rooms, and, under the N.H.S., an ophthalmologist, a dentist, and an optician visit the Centre to treat and prescribe. Simple forms of physiotherapy are carried out by the Centre's own staff, and their rooms can also be used as rest-rooms. The specialist services in particular cut down the number of wasted man-hours in which workers would otherwise have to go to, receive treatment, and return to work from any of the neighbouring hospitals or surgeries. In the same way the time of general practitioners is also saved by carrying out their routine treatments at the Centre instead of at individual surgeries. These practices have, as well as their obvious functions, the important one of making the Centre a close ally of the local general practitioners and consultants. It takes its place in the pattern of preventive medicine and of potential research not only in a selected group but of the whole community in its relation to several environments.

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British Occupational Hygiene Society

The Use and Abuse of Protective Equipment

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This conference was held in London on November 4, 1955. It was divided into four sections dealing respectively with the protection of the lungs, skin, eyes, and feet.

The morning session was opened by Mr. S. H. Wilkes, Senior Chemical Inspector of Factories, who gave a warning that the canister respirator, which was an excellent device in its own proper field, should not be used inside closed spaces where there might be high concentrations of poisonous substances or a shortage of air. An air line respirator fed with fresh air from a hand pump should always be used in such situations.

Papers on the protection of the lungs were presented by Mr. A. C. Peacock, of the Chemical Defence Experimental Establishment, Porton, and by Mr. J. Whittaker, of the Central Safety Department, Imperial Chemical Industries, Ltd.

Mr. Peacock stated that protection of a worker by means of a respirator must be regarded as a second-best substitute for tackling the hazard at its source.

The design of a respirator had to be considered as a whole; vision, comfort, and speech had to be ensured and must be combined with durability and low breathing resistance. It was also important that the hazard against which it was to be used should be fully specified so that the most appropriate kinds of filter could be incorporated.

Gases and vapours were absorbed by activated charcoal which was usually suitable unless the molecular weight was too low. It was then necessary to impregnate with catalysts. Ammonia, oxides of carbon, and the oxides of nitrogen needed special absorbents. Aerosols were taken out by fibrous filters in the form of paper, carded lap, or felted fabric.

The fit of the facepiece was important as contact with the skin without the use of excessive pressure had to be maintained when the head was moved violently. It was easier to fit well full-size face masks going under the chin than small ones covering only the mouth and nose. It had been established that a plain polished surface gave better contact with dry skin than a roughened one.

The larger the protective appliance, however, the greater was the aversion of the worker to wearing it and the greater the risk of its being discarded. Workers in the older industries were difficult to discipline in this matter and propaganda based on fear or a humorous appeal was deprecated. The atomic energy industry was exceptional and fortunate in that its employees were well aware of the danger of their working conditions and cooperated fully in the precautions advised.

Mr. Whittaker emphasized that the prevention of lung injuries began with good design of buildings, processes, and plant, followed by the use of sound operational methods and the training and control of personnel. Personal protective equipment was a last resort, required by law in certain operations.