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Pneumoconiosis in Coal Miners

Industrial Health

Highlights in Industrial Medicine, Hygiene and Nursing
compiled by F. A. Van Atta, Industrial Department, NSC

Rehabilitation

Hostile Dependent Behavior in Rehabilitation—of Veterans with Psycho-neuroses and of the Industrially Injured with a Psychologically Protracted Convalescence. Alfred P. Solomon. *Industrial Nursing* 6:9-14 (October, 1947).

If the title and the first sentence "In every treatment involving psychiatric understanding, the therapist must be aware of the degree in which dependent impulses color or motivate the presenting symptomatology" do not serve to completely discourage the individual uninitiated in the patois of the psychiatrist it becomes apparent in a comparatively short time that what is actually being discussed in this paper is the impulse of certain types of individuals to remain dependent upon their industrial compensation or their federal pension. These are the individuals who develop an endless variety of symptoms which will prevent their return to work and who become suspicious or enraged if their symptoms are not recognized as being related to their original injury or are considered to be not sufficient to prevent their return to work.

There is comparatively little interest in these individuals on the part of insurance claim adjusters or industrial physicians. They are generally rather readily recognized as not having a medical or surgical condition which prevents their return to work and their claim to further compensation is dismissed rather abruptly.

A further complication in these conditions is the ability in some states to trade a lump sum settlement for a protracted disability and the occasional awarding of permanent total disability compensation for traumatic neurosis.

While these psychologically prolonged convalescences can be frequently cured by a lump sum settlement psychiatry should produce a better method with a psychological rather than an economic orientation. A revision of some of the state compensation laws to treat these cases more realistically might help.

A classification of these individuals in terms of the nature of their demand for protracted care is given, depending on whether their hostility is the result of a feeling of frustration, displacement, rejection, revenge, or is a form of defense against being taken advantage of, or a form of provocation inviting attack on the patient.

Lead Control

Control of a Lead Hazard in the Brass Foundry. L. E. Hamlin and H. J. Weber. *The Journal of Industrial Hygiene and Toxicology* 29:367-377 (November, 1947).

An extensive lead control program has been carried on for four years in the plants of the American Brake Shoe Company where the hazard exists. Atmospheric lead concentrations have been determined and weekly or monthly spot samples of urine collected. The urinary leads are determined by the polarographic method and the results are classified on the basis of 200 micrograms or less of lead per liter of urine being nonsignificant; 200 to 300 micrograms per liter indicating the need for some precautionary measures and 300 micrograms per liter or more indicating a definitely excessive absorption.

Symptoms of lead intoxication were found to occur very seldom unless the urinary excretion was over 300 micrograms per liter. Arrangements were made to have an immediate medical examination of all employees whose urine samples were in this dangerous range. Arrangements were also made to keep the medical department informed of transfers within the plant and of the disposition of employees coming to work from episodes of lead intoxication.

A running record, of the urinary lead determination is kept for each employee and by following the trend of the determinations it is possible to catch increasing absorption and head off cases of intoxication in many instances.

Parallel with the program of medical control a program of air analyses

and engineering control of the exposures was undertaken. The correlation between the stock urine samples and the air samples is startlingly close. It is noticeable that in a plant of 65 employees reduction of the average concentration of airborne lead from 20 milligrams per 10 cubic meters to 2.8 reduced the number of cases of lead intoxication from 10 per year to 0 and that in a plant of 525 employees reduction of the airborne lead from 11.3 to 5.6 milligrams per 10 cubic meters reduced the number of lead intoxications from 14 to 4 cases per year.

The weaknesses of spot samples of urine are recognized but when a large number of samples are taken as in this program and the general trend of the excretion is studied, rather than emphasis being placed on the result of a single sample, valid results are obtained and it is possible to locate the points at which excessive absorption is taking place.

The precaution necessary in the collection of such samples and in the analytical procedures are discussed rather briefly.

From these results the authors feel that the generally accepted safe limit of 1.5 milligrams of lead per 10 cubic meters of air is low as they have found no cases of lead intoxications with concentrations of airborne lead below 3 milligrams per ten cubic meters.

Pneumoconiosis in Coal Miners

Pneumoconiosis in Coal Workers. Wales: J. Gough. *Occupational Medicine* 4:86-97 (July 1947).

The greatest pneumoconiosis problem in Britain has been and is the coal mining industry in Wales. About 14,000 men are currently certified as disabled by this disease in an area which never employed more than 250,000 men at any one time and now employs only 108,000.

Both anthracite and bituminous coal are mined in the area but the greatest production is in a grade known as semi-bituminous or steam coal. The rate of pneumoconiosis is highest in the anthracite miners as is the experience in other mining regions, but it is also seen in the miners of semi-bituminous coal and in men who have screened coal and loaded it into ships but who have never

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business anymore. I've really got to
sell Jackson on a safety program, be-
cause now I want to stay. I want to
stay here with a job and enough
money to buy a home, and a sense of
accomplishment to keep up my self-
respect.

And Susy's respect.
(To be Continued)

Industrial Health

—From page 46

done any underground work.

Some of these miners show a mas-
sive fibrosis in the lungs which is
thought to be the result of the modi-
fication of tuberculosis by coal dust.
Others show the classical nodular
silicosis. These are mostly men who
have been engaged in drilling rock.
These two classes of disease have
been recognized for a long time and
are comparatively easy to diagnose,
but since 1943 X-ray reticulation
has been recognized in Britain as an
indication of a type of disease which
is compensable.

By comparison of the roentgen ap-
pearance with pathological sections
it has been demonstrated that the
reticulation is the roentgen represen-
tation of a modular, fibrous lesion
which appear black in the section
and may be hard or may be indis-
tinguishable by touch from the sur-
rounding tissue, depending upon the
amount of fibrosis present. These
lesions are often accompanied by
emphysema which seems to be even
more common in this type of disease
than in classical silicosis but the
roentgen appearance of the reticula-
tion is the same whether or not there
is any emphysema present. This is
the factor which makes the objective
elimination of the disability from this
disease most difficult.

Silicotic Workers

*Employability of Silicotic Subjects, Sum-
mary of Report of the Minnesota Survey:
LeRoy U. Gardner, Occupational Medicine
117-21 (July 1947).*

The Saranac Laboratory made an
investigation of the employees of five
of the Minnesota iron mining com-
panies to find whether there is a risk
of silicosis in this industry. Following
the demonstration that the silicosis
risk in open pit mining is negligible
Dr. Gardner was asked to express his
personal views on the employability
of persons with silicosis for the bene-
fit of the Minnesota Industrial Com-
mission.

National Safety News, January, 1948

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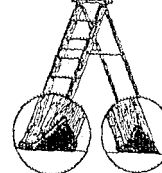
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