



Table - Abstract - Feb 1956
To local Section at #6
at Ind. Medical Dept

METHODS OF MEDICAL CONTROL AND SPECIFICATIONS FOR SAFE VERSUS DANGEROUS EXPOSURE IN LEAD- USING OCCUPATIONS

I. The shortcomings of Environmental Appraisal and Control Measures

1. Changing conditions in the industrial environment induced, normally and chronically, by
 - (a) Changes in production procedures - especially increases in production
 - (b) Deterioration of operating equipment - maintenance operations
 - (c) Deterioration of ventilating equipment - seasonal changes due to doors, windows, etc.
 - (d) Variations in housekeeping and supervision
2. Changes in the responses of the personnel to hazardous conditions
 - (a) Carelessness in personal hygiene - need for supervision
 - (b) Carelessness in housekeeping - need for supervision
3. Influence of respiratory protective equipment
4. Inadequacies in the specification based on
 - (a) Assumption that ingestion of lead is negligible
 - (b) Disregard of influence of physical and chemical state of material suspended in air
 - (c) Disregard (often unavoidable) of movements of individuals into and out of areas of highly variable hazard

II.. The Necessity for Reliance Upon Medical and Physiological Criteria

1. Medical examinations in search of the earliest toxic effects
 - (a) Symptomatic - gastro-enteric dysfunction
 - loss of appetite
 - constipation
 - abdominal pain
 - Neurological - or neuro-muscular
 - insomnia
 - myalgia
 - loss of dexterity

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- (b) Physical signs - gastro-enteric
lead line
including peristalsis

Neurological
extensor weakness

- (c) Hematologic - Signs of hematopoietic disturbance
excessive hematopoieses
stippling, etc.
anemia
excessive copoporphyrin

2. Examinations designed to detect the approach of hazard

- (a) Analytical procedures for measuring individual exposure to lead

III. Practical Application of Analytical Procedure

1. Periodic investigation of overall plant conditions through analytical study of a group truly representative of the continuing operating activities

(A select group sufficient in size and distribution to represent all of the operating conditions, and sufficiently stable as to duration of employment and general reliability, as to be illustrative of conditions over a long time.)

i.e. a true picture of environmental conditions, involving all factors which influence the absorption of lead, for superior, in every way, to any other means.

2. Continuing investigation of all individuals within the potentially hazardous environment, from the aspect of medical disposition - using all available knowledge to attain safety for the individuals

- (a) Criteria for reduction of exposure
transfer within area of exposure

- (b) Criteria for elimination of exposure
transfer to area of non-exposure

- (c) Criteria for resumption of exposure

3. Use of analytical procedures in diagnosis
Actual, suspected or alleged cases of intoxication

IV. The Disadvantages of The Proposed Regimen

1. Expense of Procedures - less, however, than the cost of trouble
Compensation costs

3.

2. Extensive requirements in terms of skill and precision

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