WALTER H. HARTUNG, M. D.
DIRECTOR OF HEALTH

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ASSISTANT DIRECTOR

STATE OF OHIO

DEPARTMENT OF HEALTH
COLUMBUS

ADDRESS ALL OFFICIAL CORRESPONDENCE
TO THE DIRECTOR OF HEALTH

OFFICES:
DEPARTMENTS OF STATE BUILDING

LABORATORIES:
OHIO STATE UNIVERSITY CAMPUS

June 29, 1935

SUBJECT:

Dr. Robert A. Kehoe,
Laboratory of Applied Physiology,
College of Medicine,
University of Cincinnati,
Cincinnati, Ohio.

Dear Dr. Kehoe:

May I please ask of you again the favor of critically examining the enclosed form entitled "Supplementary Evidence in the Diagnosis of Lead Poisoning". We have used this form for the past year in all cases (about 140) where franked lead poisoning was claimed as per the diagnosis made by the patient's physician and reported originally on the regular printed form (also enclosed). This greatly enhanced the evaluating of diagnoses claimed.

Chiefly, I am interested in whether you think the time is at hand to modify the last paragraph on the second page which refers to analytical findings of lead in the blood, urine and feces. I have discussed this matter with Mr. Leo F. Ey, Chief of our Division of Laboratories, with the idea of perhaps accepting such reports of lead analyses from certain laboratories in the State. Mr. Ey informs me that his Division has a list of some twenty-five laboratories in the State whose findings are approved, so far as ordinary clinical laboratory reports are concerned, but that certainly a number of these would not be equipped to make the lead determinations required herewith. There is also a group of recognized clinical laboratories in the State, but again their qualifications for work of this character would have to be looked into. It is perfectly obvious that we cannot accept reports of quantitative or even qualitative lead findings from unknown laboratory sources, yet it is advisable to encourage such analytical findings wherever they can be trusted.

We have also to bear in mind that too much importance must not be attached to laboratory findings alone as is, of course, the case with clinical medicine in general, and so it will probably be well to include a cautionary statement embodying this idea.

Your reply will be greatly appreciated. We intend to make up our revamped form for cases reported after July 1st.

N 5980

Yours sincerely,

Emery R. Hayhurst

Emery R. Hayhurst, M.D.,
Chief, Division of Hygiene,

OHIO DEPARTMENT OF HEALTH
Division of Hygiene
Bureau of Occupational Diseases
Columbus, Ohio

Supplementary Evidence in the Diagnosis of Lead Poisoning

Patient's Name _____ Address _____
Physician's Name _____ Address _____

Has this patient had previous attacks of lead poisoning? Give approximate date(s).
What were the onset symptoms in the present attack?

Was disability such that work was stopped? If so, when?

Check or Comment on the Following Items

I. Objective Findings (i.e., the physician's observations)

Pallor (especially circumoral) Blue line in gum(s)*

Stippling* (basophilia of red cells) Polychromatophilia

Reticulocytosis* Mononucleosis

R.B.C. count(s) W.B.C. count(s)

Hemoglobin % Recent retrograde blood changes?

Blood pressure findings Pulse (at rest)

Teeth, gums (condition of)

Hand-gripping power (condition of): R. L.

Wrist extensors (any actual wrist drop?): R. L.

Tremor Incoordination Ataxia

Reflexes: Patellar Ocular

Vision: R. L. Recent disturbances

Hearing: R. L. Recent disturbances

Mental disturbances

Malnutrition Emaciation Premature aging

Gouty signs Evidence of nephritis

Skin (acne, etc.) Weight variations

Other objective findings of note

N 5980.01

*"Blue line in gum(s)", "stippling" and "reticulocytosis" occur in Lead Absorption, but, with or without these, it requires significant abnormalities in various ones of the other Objective and Subjective findings listed to sustain a diagnosis of

II. Subjective Findings (i.e., the patient's complaints)

Morning anorexia	Metallic (or sweet) taste
Nausea or vomiting	Distress in abdomen
Obstinate constipation	Abdominal colic attacks
Headache	Insomnia
Weakness (hand grips; use of wrists, legs, feet, etc.)	
General weakness	Syncopal attacks
Rheumatic pains	Muscle cramps
Disturbed vision: R.	L. Dizziness
Deafness: R.	L.
Weight: Normal	At present
Mental depression	

Any further comment:

Physician's Signature _____

Date _____

The diagnosis of Lead Poisoning involves evidence of (1) exposure to lead or its compounds; (2) objective signs of blood changes, of nervous involvements and usually nutritional disturbances; and (3) the presence of a number of the subjective phenomena above listed. To be occupational, industrial exposure must be established.

Stippling (also reticulocytosis and polychromatophilia) indicate that lead absorption is going on at the time. The number of stippled cells found increases as absorption progresses and is a rough measure of the amount of exposure. Hence workers showing stippling without other evidences should have blood examinations made frequently. Stippling with other evidences (see above list of objective and subjective findings) constitutes acute lead poisoning, but acute lead poisoning occasionally exists without stippling (here reticulocytosis is invariably prominent and the red cells should always be examined for this condition). When the condition becomes chronic, stippling usually diminishes, but is rarely absent as long as exposure continues or acute clinical signs prevail, while anemia is invariably present, usually also with polychromatophilia.

Reports of analytical findings of lead in the blood, urine and feces are of doubtful value since accuracy of testing methods, metabolic disturbing factors at the times of tests (which must be made over days and preferably weeks), and ultimate significance of tests in view of the findings of "normal" lead in perhaps equivalent amounts, all confuse the picture.

WRITE PLAINLY WITH INK—THIS IS A PERMANENT RECORD

N. B.—Every item of information should be carefully supplied. The exact statement of OCCUPATION is very important. Physicians should state DIAGNOSIS in plain terms. See instructions on back of certificate.

OHIO DEPARTMENT OF HEALTH

CERTIFICATE OF INDUSTRIAL OR OCCUPATIONAL DISEASE

NAME OF PATIENT.....

ADDRESS: Street and No.....City or Village.....

PERSONAL AND STATISTICAL PARTICULARS

Sex	Age	Color	Country of Birth

Single, married, widowed or divorced (*write* the word)

OCCUPATION

(a) **Trade,** occupation or work (in which disease was acquired).....

Particular kind of work in such trade, etc.....

Date of entering this occupation.....

Employer's name.....

Address.....

Employer's business (goods made or work done).....

(b) **Previous** occupations:

Name of occupations	Entered (year)	Left (year)

Previous illnesses, if any, due to occupation:

Disease or illness	Year

MEDICAL CERTIFICATE OF DISEAS

Diagnosis .....

Chief symptoms and conditions.....

Date first symptoms appeared.....

Complicating Diseases (such as alcoholism, syphi culosis, etc.).....

What substance(s) or condition(s) in your opinion c affliction?.....

Duration (actual, estimated).....
(Check which)

Additional facts.....

Date of diagnosis.....

(Signed).....

....., 193..... (Address).....

Ind. Hy. 3—15M—11-34.

Mail to STATE DIRECTOR OF HEALTH, Columbus.

For I
See C

OHIO DEPARTMENT OF HEALTH
COLUMBUS

INSTRUCTIONS FOR FILLING OUT CERTIFICATE

Present Occupation. *Precise* statement of occupation is very important so that the relative healthfulness of various pursuits may be known. It is necessary to know both general trade or occupation (for example, *printer*) and also the particular kind of work or branch of the trade (as *hand compositor* or *linotype operator.*)

Date of entering this occupation is important to determine how long the worker may have been exposed to the hazard before contracting the disease.

Employer's name, address and business are necessary to ascertain distribution of occupational diseases by industries, many trades (e. g., machinists) being common to different industries.

Previous Occupations need to be known, if possible, because present illness may be due to a former rather than present occupation. Give simply the name of each distinct occupation which the patient may have followed, with the year he entered he left.

Previous Illnesses. This refers either to previo present disease, or to any other disease, *due to occ* that is required is the name of each such disease or ill year in which it occurred.

Medical Certificate. Only two of the items spe require any explanation. In making these reports it to consider the possible influence of factors other th as causes of the disease. For this reason any *complic* should be noted, such, for example, as alcoholism or sy nection with arteriosclerosis in cases of lead or other ing. The possible effect of other factors, such as poor h tions in the home, or other personal conditions, must and when discoverable should be noted under *additional*

AN ACT—To Require the Reporting of Occupational Diseases—(As amended February 4

Be it enacted by the General Assembly of the State of Ohio:

Report of occupational diseases by physicians

SECTION 1243-1. Every physician in this state attending on or called in to visit a patient whom he believes to from poisoning from lead, phosphorus, arsenic, brass, wood alcohol, mercury or their compounds, or from anth compressed air illness and such other occupational diseases and ailments as the state department of health shall require t shall within forty-eight hours from the time of first attending such patient send to the state commissioner of health a r

When and to whom to be made

(a) Name, address and occupation of patient. (b) Name, address and business of employer.
(c) Nature of disease. (d) Such other information as may be reasonably required by the state department

The reports herein required shall be made on, or in conformity with, the standard schedule blanks hereinafter The mailing of the report, within the time required, in a stamped envelope addressed to the office of the state commissio shall be a compliance with this section.

Blanks for report

SECTION 1243-2. The state department of health shall prepare and furnish, free of cost, to the physicians in preceding section, standard schedule blanks for the reports required under this act. The form and contents of such bl determined by the state department of health.

Such reports not evidence

SECTION 1243-3. Reports made under this act shall not be evidence of the facts therein stated in any action arisi disease therein reported.

Copy of report to be transmitted to proper official

SECTION 1243-4. It shall furthermore be the duty of the state department of health to transmit a copy of all su occupational disease to the proper official having charge of factory inspection.

Penalty

SECTION 1243-5. Whoever being a physician practicing in the state of Ohio, neglects or refuses to make and transm commissioner of health any report provided for in section 1243-1 of the General Code shall be fined not to exceed one hu or imprisoned for not to exceed ninety days, or both, but no person shall be imprisoned under this section for a first of prosecution shall always be as and for a first offense unless the affidavit upon which the prosecution is instituted contains that the offense is a second or repeated offense.

NOTE—In addition to the diseases or disabilities provided for in Section 1243-1 of the above law, the regulations Public Health Council on February 27, 1920, provide in Regulation 2 for the reporting of "any disease or disability co result of the nature of the person's employment, including the following diseases or disabilities *and not excluding others*

Anilin poisoning	Bisulphide of carbon poisoning	Naptha poisoning
Benzine (gasoline) poisoning	Carbon monoxide poisoning	Natural gas poiso
Benzol poisoning	Dinitrobenzene poisoning	Turpentine poisoni

NOTE—A schedule of occupational diseases compensable in Ohio will be sent upon request to the State Directo Columbus, Ohio.