[redacted]

C.C. Weakness, tremor, pain in neck, weakness left leg.

P.I. Feb. 24, 1931 while burning off rivet heads in painted steel structure with oxyacetylene torch, developed an acute pulmonary edema - relieved by oxygen therapy-sent home in 24 hours. Night of Feb.25, 1931 developed acute pharyngeal and laryngeal edema - was returned to hospital where he remained till March 13, 1931. From that time till present has been ambulatory and under care of a number of physicians most of whom agreed that the patient's condition was the result of an encephalitis, myocarditis and spinal arthritis due to lead poisoning. The condition during the past year has grown worse particularly insofar as the pain in the spine is concerned - neck pain and stiffness being most annoying. In addition for past 8 months there has been numbness, tingling, and weakness in left leg. For past 9 months has been free from severe abdominal cramps which had occurred at intervals during the previous 2 years. Tremor of the hands has been constant though somewhat less marked during past few months. Shortness of breath on exertion has been continually annoying, and has become increasingly severe. Gastro-intestinal symptoms limited to gas and painful distention after meals. No chills, fever, diplopia or paralysis.

F.H. Father died 81 senility. 1 brother died at 47 sarcoma. Mother died at 30 puerperium. Wife living and well - no children.

P.H. Fracture left patella 1930.

P.H. School till 16 - Grocer's clerk till 17 - Army till 23, Structural Steel worker since except 5 years (1920-1924) when he operated a grocery.

Ob.H. Off and on work with oxyacetylene torch in burning rivet heads - work usually carried out in open air. Prior to P.I. had been burning for about 2 weeks average 4-5 hours work with torch - all of work was under bridge floor where ventilation was poor - fumes were very thick - pocketing under bridge. Most pronounced symptom was bronchial irritation - cone respirators were furnished after about 1 week - were worn last 4 days preceding illness. One other man had similar exposure, less severe, though he complained of feeling ill, did not become seriously ill. Particular bridge had been painted since 1861. Most places there was a minimum of 1/2 inch thickness of paint.

C.R. Blackish mucoid sputum at times since P.I. Sense of constriction frequently in chest with pain in left base posteriorly on deep inspiration. Markedly dyspneic on exertion, 10 steps maximum exertion - weakness, giddiness pronounced.

G.I. Appetite fair - no breakfast - constipated - physic (saline cathartic 2 x week). Small amount bright red melena after cathartics - severe internal hemorrhoids.

G.U. Nycturia 1 x. Impotent 3 months 1931 - Has recovered function since then.

N.M. Frequent occipital headache radiating up from shoulders and neck. Insomnia 1-2 hours. Wakens frequently as consequence of muscle cramps and drawing sensations. Numbness in hands and legs very annoying. Frequent formication left leg. Mentally has been very depressed and nervous, otherwise has been interested in hobby and reading.

Habits Averages hours sleep nightly -no alcohol - moderate use tobacco.

H.W. Usual weight 198 - L.W. ? 1932 B.W. 198 - P.W. 186-1/2

G.O. Well developed and nourished white man - depressed, nervous. Weeps readily - moderately prominent pallor, coarse tremor to hands. Gait is halting with dragging left leg - apparent age 40-45 years.

T: 98.6 Pulse 76 R: 24 Weight 186-1/2

B.P. 120/82

Head Hair harsh, thin - no tenderness.

Eyes Pupils somewhat contracted - react to l and a. ocular movements hesitant - voluntary control poor.

Nose Negative

Mouth Lips good color - gums unhealthy - purulent gingivitis lower incisors - 2 full crowns - carious molars - bluish discoloration gums margin - lower central incisors. Throat dusky and reddened. Pharyngeal reflex Ok.

Skin Clear -healthy

Neck Muscles have normal tone - are tender to pressure - cervical spine tender on percussion -thyroid not noteworthy.

Nodes Not noteworthy

Chest well muscled - broad - wide angled - trapezio - somewhat rigid - and very tender.

R.S.D. 7.0 R. C.D. 3.0 x 11.0

K.I.	right	8.0	D.T.	Right	5.0
	left	8.0		left	5.5

P.N. subdued by heavy muscular pad.

B.S. very soft vesic. N.V. and S. V. normal but poorly transmitted.

Heart tones soft - regular - poor quality.

Abdomen obese, slightly pendulous - tense - no masses or tender areas.

Pelvis normal

Extremities
normal form - left leg definitely colder than right from knee down - dorsalis pedis pulses good and equal.

Spine Tender throughout - erector spinae tense - flexion limited.

Neurological Examination

Cranial Nerves

I	Ok
II	Not examined
III	Ok
IV	Ok
V	Ok
VI	Ok
VII	Foci dull - slightly mask-like. All movements weak and limited - emotional activation fairly good.
VIII	Slight impairment hearing on left.
IX	Ok
X	
XI and XII	Ok.

Reflexes - Tendon reflexes hyperactive - K.K. exaggerated. Superficial reflexes not elicited - no Babinski or clonus.

Sensorium - Tactile discriminate poorly determ. throughout. Complete absence discrim. on left leg below knee where there is a stocking anaesthesia. Epicritic sensation both hands is poorly perceived. Kinaesthetic sensation left leg is poor while deep sensibility both hands is normal.

Speech Halting and somewhat tremulous.

Gait Walks with pronounced limp due to dragging of left leg. Some of this leg weakness is feigned.

Tremors Coarse labial and lingual tremors - coarse tremor of hands and arms - increased by effort or emotional stress - intention type. The head is involved at times.

Muscular System normal - no atrophy or localized loss of tone.

Laboratory

Urine - alk. N.N. Albumin and Sugar negative.

Blood - RBC 5,370,000
WBC 11,600
Hb 16 (HH) 101%

Poly.	58
Band	0.5
Lymph	37
Mon.	3.5
Eos.	1

Impression

The positive findings on the patient at this time are as follows:

1. General and specifically myocardial weakness.
2. Spinal arthritis.
3. Evidences of central nervous system injury.
4. Dental caries and gingivitis.
5. Psychoneurosis.

From the patient's history it appears that the initial disability was the result of the inhalation of gases and lead fumes evolved by the torch work. These resulted at first in an acute pulmonary edema and later on chronic illness. The present myocardial weakness can be attributed to the exposure to irritant gases evolved as can the continued state of ill health. It is not possible to determine whether or not the previous lead exposure is playing a role in the patient's illness at this time although it is conceded to have been a major factor at the time of onset. There is no direct evidence that such is the case now, on the other hand until further studies are done it cannot be excluded as a factor. The psychoneurosis which is present can be offered as an explanation of some of the neurological findings; in our opinion it is more properly considered to be a complication of the patient's illness. We would recommend hospitalizing the patient for at least 2 weeks, during which time the lead excretion under the influence of treatment could be studied. Examination of the fields of vision should be carried out, and X-rays of the chest and spine obtained.

Willard F. Machle, M.D.