



MEDICAL DEPARTMENT

FISHER BODY DIVISION

GENERAL MOTORS CORPORATION

PIQUETTE AND ST. ANTOINE

DETROIT 2, MICHIGAN

February 14, 1950

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

Dear Doctor:

You have been kind enough to provide me with certain pamphlets setting forth the results of your researches on lead poisoning. I thought that you might like to see our 1949 experience with lead in this Division, and I am therefore attaching a copy of the report which I have routinely transmitted to all our Medical Directors, etc. As you know the Fisher Division does nearly all the automobile body manufacturing which is done in General Motors.

You will note that few of the cases of poisoning had the benefit of regular periodical blood lead estimations prior to the time of illness, although our program calls for them at intervals of approximately three months. I believe if those exposed to lead receive physical examinations each month together with a blood lead estimation every third month, and proper hygiene on the job, together with transfer when examination findings indicated, we would not have lead poisoning.

Sincerely yours,

A. F. Lecklider, M. D.
Medical Director

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PIQUETTE AND ST. ANTOINE

DETROIT 2, MICHIGAN

January 23, 1950

TO: Medical Directors

FROM: Dr. A. F. Lecklider

RE: 1949 Lead Experience - Fisher Body Division

The lead experience of the Fisher Body Division for 1949 is reflected in the following figures:

Reported cases of lead poisoning - - - - - 20
Time Losing cases of lead poisoning - - - - - 17
Average number of days lost by lead poisoning cases - - - - - 12

Periodic occupational examinations in lead exposures - - - - - 6258

Blood Lead estimations made - - - - - 1567
Blood lead in excess of .08 per 100 mg. - - - - - 390
Percentage in excess of .08 per 100 mg. - - - - - 25%

Results of blood lead estimations by occupation:

Solder Discers

Above	.08	--	209	
Below	.08	--	220	Percentage above .08 -- 48.7%
Total			429	

Filers

Above	.08	--	101	
Below	.08	--	312	Percentage above .08 -- 24.5%
Total			413	

Metal Finishers

Above	.08	--	56	
Below	.08	--	254	Percentage above .08 -- 18.1%
Total			310	

Torch Solderers

Above	.08	--	17	
Below	.08	--	269	Percentage above .08 -- 5.9%
Total			286	

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Tinners

Above	.08	--	1	
Below	.08	--	65	Percentage above .08 -- 1.5%
Total			66	

Miscellaneous occupations

Above	.08	--	6	
Below	.08	--	57	Percentage above .08 -- 9.5%
Total			63	

Miscellaneous occupations includes supervision and sweepers.

Pertinent facts relating to cases of Lead Poisoning

Average length of employment on job at which exposed to lead -- $4\frac{1}{2}$ months.

Distribution -- Lead poisoning cases occurred in 9 out of 16 plants processing solder.

Occupation -- Solder discing -- 18.
Solder filing -- 2.

Symptomology -- Colic. Occurred in 85% of the cases.

- Lead Line. Present in somewhat less than 50% of the cases.

- Constipation. Noted in 50%.

- Pallor. Present in 50%

- Extensor Weakness. None

Blood Changes - Haemoglobin. Within normal limits in the 7 cases in which it was estimated.

- White Blood Counts. Ranged from 7,000 to 9,950 in 7 cases.

- Red Blood Counts. Ranged from 3,460,000 to 5,380,000.

- Poikilocytosis. Present in all bloods examined.

- Anisocytosis. Present in all bloods examined.

- Blood lead content was above .08 in 19 out of 20 cases of poisoning at the approximate time of illness.

- Increased stippling. Occurred in all but one case in which a blood smear was made.

Routine Blood Examinations. Only 2 clinical cases of poisoning occurred in which blood lead estimations had been made regularly prior to the onset of the illness.

BLOOD LEAD LEVELS

	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
Case #1		.09	(ill)	.08	.09		.07	.08			.05	
#2				(ill)		.11						
#3					(ill)							
#4					(ill)	.15						
#5					(ill)							
#6						(ill) .25			.07	.05	.12	
#7							(ill) .08					
#8							(ill) .11					
#9							(ill) .34					
#10						.52	.46	(ill)	.36		.25	
#11								(ill) .24		.11		
#12	(1948) .13						.10	(ill)				
#13								(ill)				
#14								.10	(ill)			
#15								.11	(ill)			
#16								.14		(ill)	.15	
#17										(ill)		
#18										(ill)	.09	
#19											(ill) .12	
#20	(1948) .04								.13		.11	(ill)

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Comment on 1949 Experience

All plants doing body assembly have a definite lead hazard which requires careful medical control.

Length of exposure to lead was not a governing factor.

Our lead hazard is confined to exposure to fine lead dust, chiefly by solder discers and filers. Fumes from solder as used in our manufacturing processes, were apparently not a source of poisoning.

Blood lead estimations may be relied on to indicate the degree of absorption of lead. Low blood lead content eliminates likelihood of impending poisoning.

Blood lead estimations at 3-4 month intervals are important as a control measure and should be made, along with regular monthly physical examinations, in all cases of lead exposure.

There is no doubt that clinical cases of lead poisoning have been averted by prompt transfer of employees having high blood lead to other occupations.

Stippling was a constant phenomena in cases of acute poisoning.

The lead line, when found, is pathognomonic but may be absent in cases of poisoning due to mouth conditions.

Changes in red cell morphology were found in all cases examined.

A. F. Lecklider
Med. Dir.

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