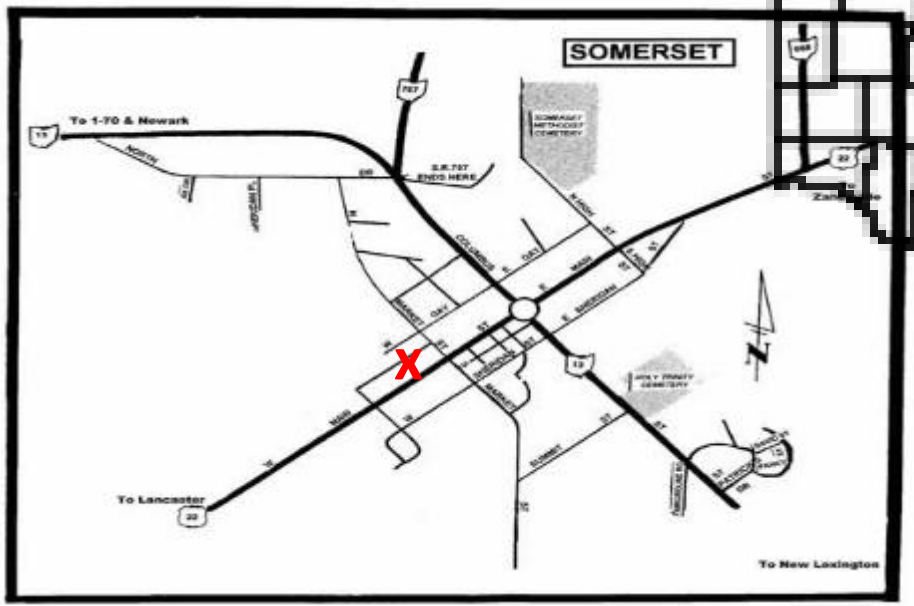
THE BATTLE OF A LIFETIME: ***BECOMING UNLEADED***

LEANN HOWELL MA, BS, AAS

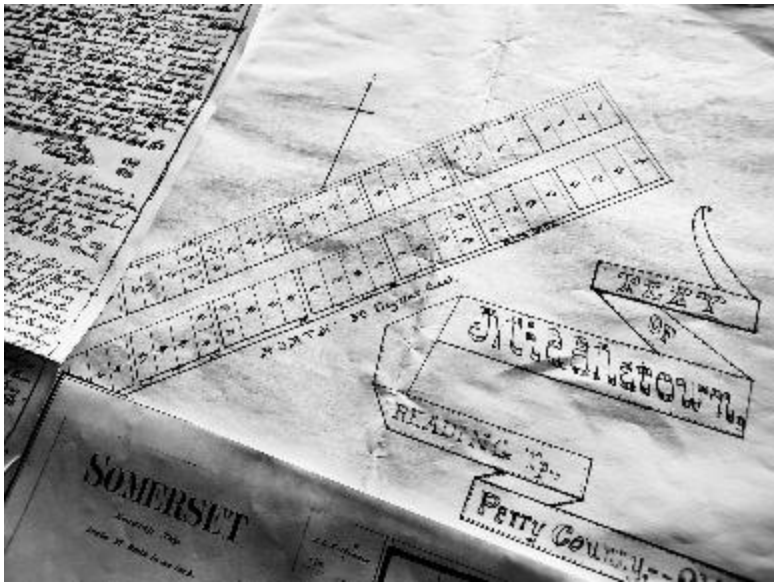
BOOK ONE: IDENTIFIED

(2025)

SOMERSET, OHIO
PERRY COUNTY

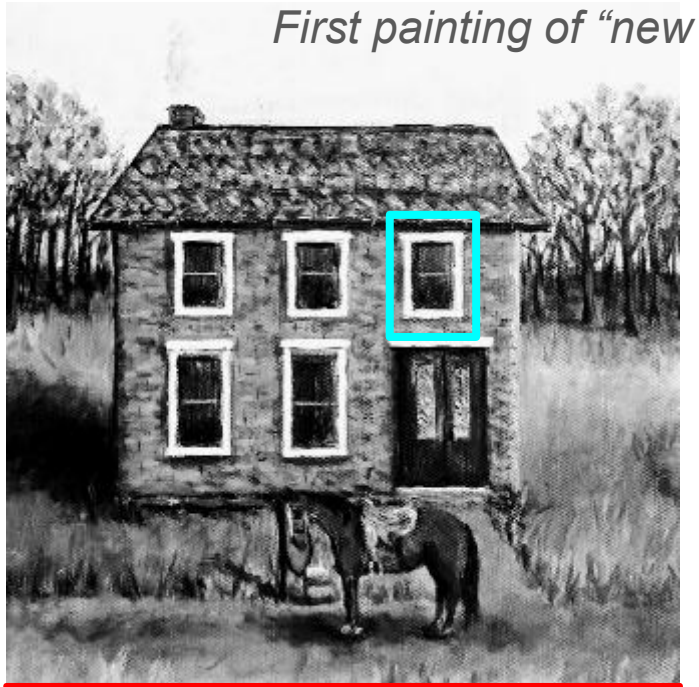


1832: CONSTRUCTION



THE LETHAL LEGACY BEGINS

First painting of "new brick, common type" for approximately 800 ft²



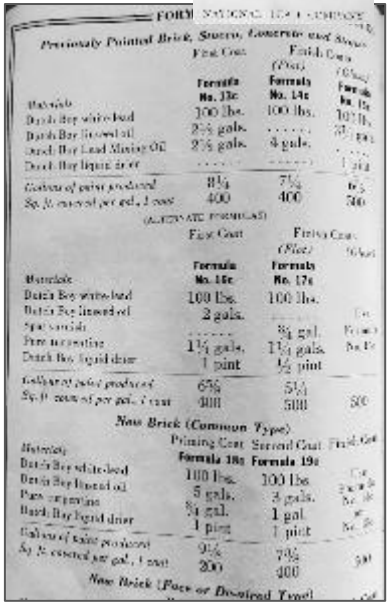
XRF, Front wall, ODH 1997: 10.0
XRF, Left side wall, ODH 1997: 10.0

1832 primer coat	37 gallons	**400** pounds of lead
1832 second coat	14 gallons	**200** pounds of lead
1832 flat finish	15 gallons	**200** pounds of lead
1832 total	***66 gallons***	***800 pounds of lead***

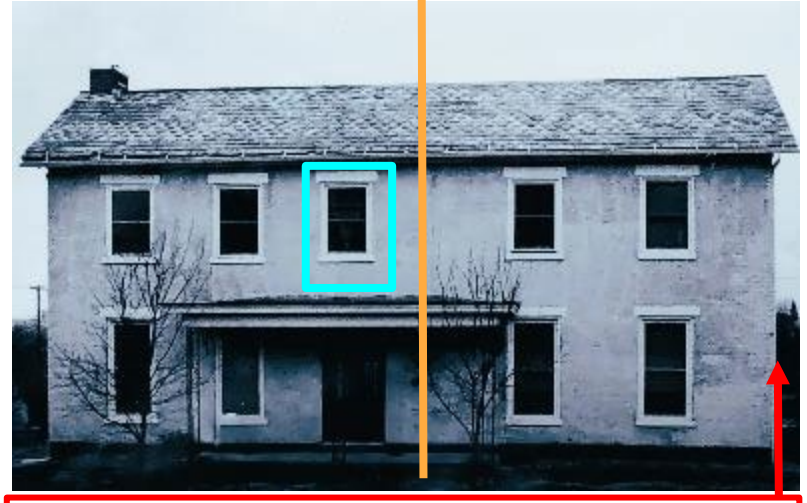
Repainted 3x over the next 55 years:

Year 1848	31 gallons	**400** pounds of lead
1848-1857	31 gallons	**400** pounds of lead
1857-1883	31 gallons	**400** pounds of lead
Cumulative total by 1883	***159 gallons***	***2,000 pounds, one ton of lead***

1939



FIRST ADDITION: BY 1887



XRF, Right side wall, ODH 1997: 5.0

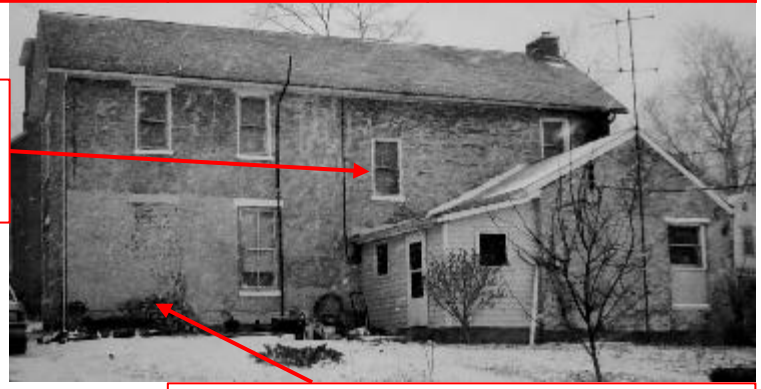
1887 painted surfaces	31 gallons	**400** pounds of lead
1887 unpainted surfaces	66 gallons	**800** pounds of lead
Cumulative total by 1887	***256 gallons***	***3,200 pounds***

KITCHEN ADDITION: 1905

XRF, Rear wall, ODH 1997: **4.1**

1905 painted surfaces	95 gallons	**1,200** pounds of lead
1905 unpainted surfaces	32 gallons	**400** pounds of lead
Cumulative total by 1905	***350 gallons***	***4,400 pounds, 2 ¼ TONS of lead***

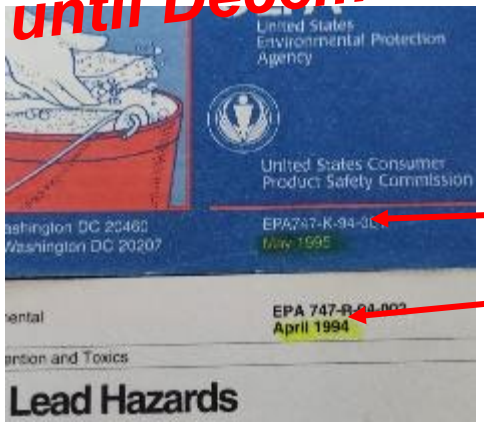
Sill dust: ***346*** µg/ft² 1999



Soil: ***3,240*** ppm, ODH 1999

1905-1945	70 gallons	*1,000 pounds of lead*
1905-1945	70 gallons	*1,000 pounds of lead*
1957-1975	70 gallons	*1,000 pounds of lead*
	558 gallons	**7,400 pounds, around 3 ¾ tons of lead, *by 1978***

Lead paint banned March 1, 1978
Property purchased on July 28, 1995
No warnings until December 6, 1996



Documents existed, yet not provided until May 5, 1997

*ON A **BLUE** MOON IN JUNE…*

- 7 pounds, 9 ounces
- Apgar 9/10
- 21 inches long
- *Lead and cadmium crossed the placenta*

STUMP SAMPLE	LEAD µg	LEAD ppm	LEAD %	CADMIUM ppm
1996	2.06	**6.38**	0.000638%	**0.496**

Jeffrey Weidenhamer PhD conducted the 2020 analysis by ICP (inductively coupled plasma spectrometry) at the STAR Lab at the Ohio Agricultural Research and Development Center in Wooster, OH.

2020 paint chip analysis:
15,800 ppm lead
4.99 ppm cadmium

9.4 mg/cm² May 97

Spindles tested positive, regardless of undisturbed, stripped, or sanded – lead absorbed into the wood

9.1 mg/cm² May 97

Trim stripped, ready for sanding

7.6 mg/cm² May 97

Leather gloves

Heat gun

1916

Front door

Kick plate stripped, ready for sanding

Kick plates stripped, sanded and painted

Zip Strip and sanding on bottom two steps

378/*100* µg/ft² May 97
6,580/*100* µg/ft² July 99
39 µg/ft² Sept 01

Jeffrey Weidenhamer PhD conducted the 2020 analysis by ICP (inductively coupled plasma spectrometry) at the STAR Lab at the Ohio Agricultural Research and Development Center in Wooster, OH" (Weidenhamer 1)

77060000 AREA/ROUTE/STOP: 7095000
CIGNA/FAIRFIELD-N EWING
401 NORTH EWING ST
LANCASTER, OHIO 43130

FAX LABORATORY REPORT

SmithKline Beecham
Clinical Laboratories

MICROFILM#

PATIENT NAME	PATIENT ID	ROOM NO.	AGE	SEX	PHYSICIAN
[redacted] JULIAN			9M	M	

PAGE	REQUISITION NO	ACCESSION NO.	LAB REF.#	COLLECTION DATE & TIME	LOG-IN DATE	REPORT DATE	& TIME
1	6549161	DE907353I		04/21/97 1235PM	04/21/97	04/29/97	10:

REMARKS

REPORT STATUS	TEST	RESULT		UNITS	REFERENCE RANGE
		IN RANGE	OUT OF RANGE		
FINAL	A COPY OF THIS REPORT HAS BEEN SENT TO:				
	LEAD (B)		44 H	MCG/DL	
	TEST REPEATED AND RESULTS CONFIRMED				

INTERIOR HAZARDS

SURFACE TESTED	LOCATION	RESULTS
Bricked up window frame - den	1st addition	10.0
Back door - kitchen	2nd addition	10.0
Door jamb - master bedroom	Original house	10.0
Front window trim - master bedroom	Original	10.0
Door - master bedroom	Original	9.9
Window jamb - upper foyer	Original	9.8
Door trim - nursery	Original	9.8
Closet door - master bedroom	Original	9.7
Staircase spindle - foyer	Original	9.4
Doorway kitchen to dining room	Original	9.2, 8.1
Cellar door trim - foyer	Original	9.1
Cellar door - foyer	Original	8.8
Window sash - bedroom #4	1st	8.0
Window sill - nursery	Original	**3.2**

From The Ohio Department of Health Environmental Inspection XRF analysis report on May 5, 1997

1997 ODH DUST ANALYSIS

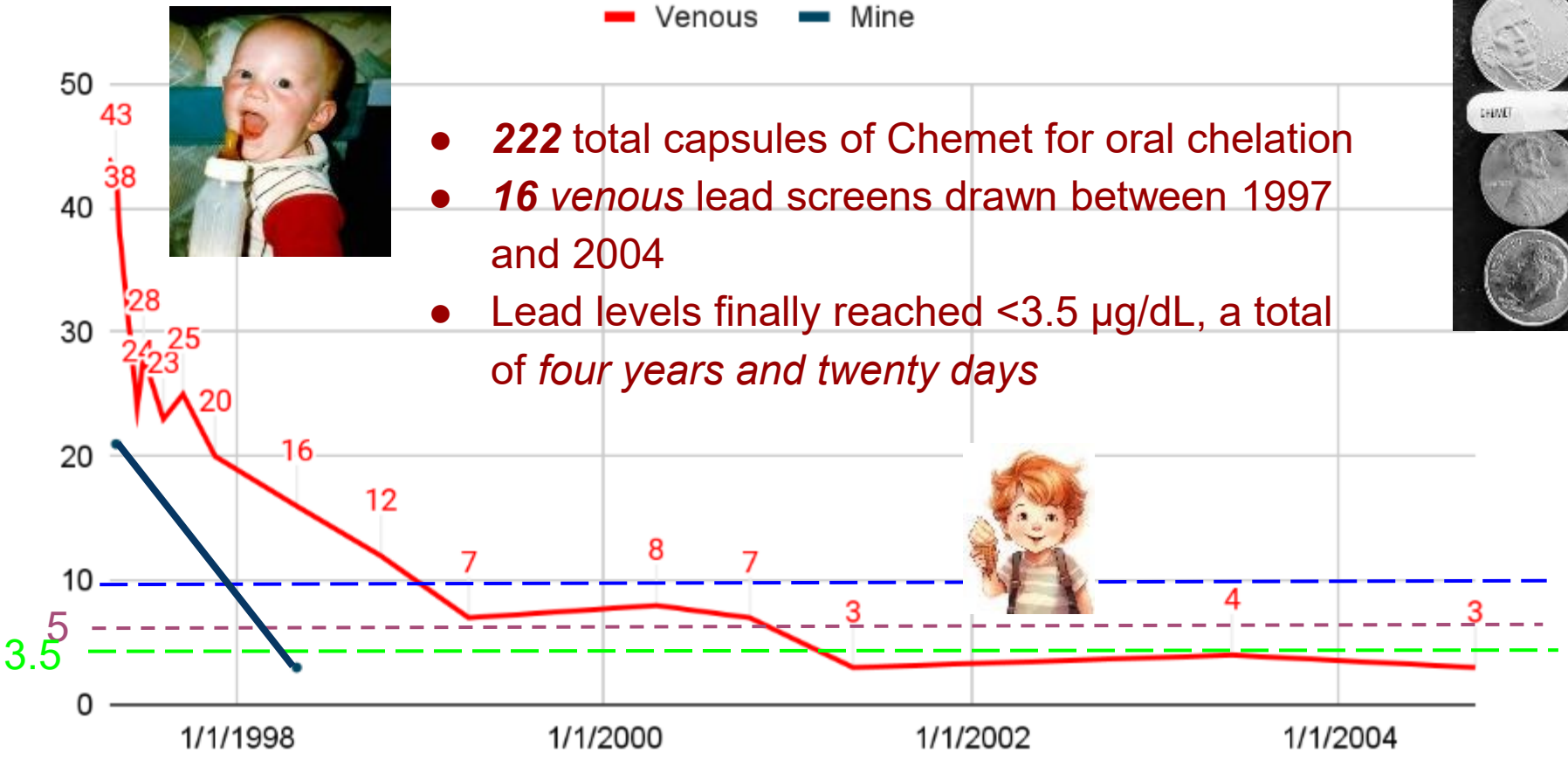
LOCATION	LEAD µg/ft²	THRESHOLD 1997	# SUGAR CRYSTALS
Nursery window sill	***4,290 ****	*500*	*21.45*
Stair tread	***2,530***	*100*	*12.65*
Den floor by foyer	***659***	*100*	*3.295*
Entrance hall floor	***378***	*100*	*1.89*
Den floor by bricked-up window	***348***	*100*	*1.74*

An average sugar crystal weighs 200 micrograms

A white-lead paint film stays unbroken, smooth and even, wearing down slowly by gradual chalking, always providing a continuous coat of protection for the surface that it covers and, in the end, a perfect surface for repainting.

JULIAN'S LEAD LEVELS: 4/21/1997-9/28/2004

- ***222*** total capsules of Chemet for oral chelation
- ***16*** *venous* lead screens drawn between 1997 and 2004
- Lead levels finally reached <3.5 µg/dL, a total of *four years and twenty days*



BOOK TWO: ABANDONED

(end of 2025)

BROKEN LINKS

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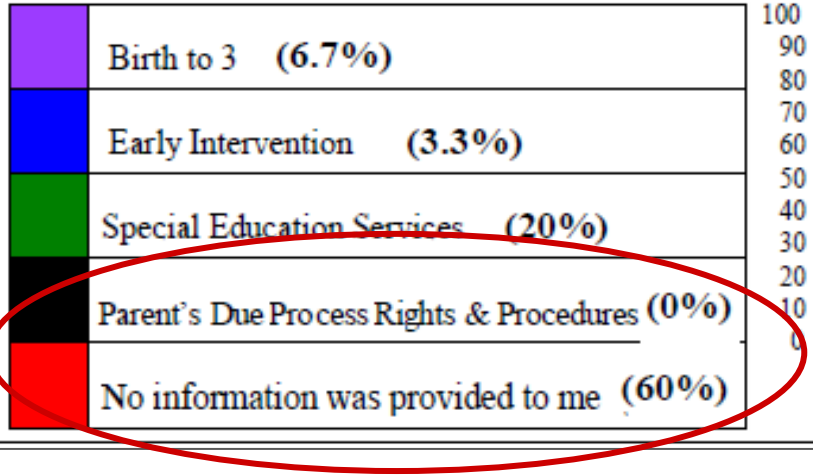
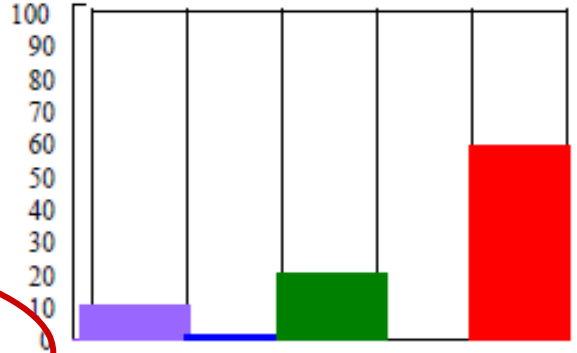
- Birth to Three
- Early Intervention
- Special Education Services
- Parent Due Process

Sixty- percent (60%) of parents from 17 states who participated in the 2008 – 2009 National Parent Lead Information Survey reported that they were not provided information about Birth to Three, Early Intervention, Special Education or Parental Due Process Rights and Procedures when their child was medically diagnosed as lead poisoned. Zero percent (0%) of parents reported that they were informed about their Parental Due Process Rights. Below are the percentages that said they were informed about the various I.D.E.A mandated services for qualifying young children:

The following are the percentages of 2008-2009 Parent Information Survey respondents that reported they were provided information about Birth to 3, Early Intervention, Special Education Services, or Parental Due Process Rights & Procedures when their child was medically diagnosed as lead poisoned.





Vivian A Cross EdD, 2009 Foundation for Educational Advancement

Individuals with Disabilities Education Act of 2004

"(c) A student shall be determined eligible and classified ***"eligible for special education and related services"*** under this chapter when it is determined that the student has one or more of the disabilities defined in (c) 1 through 14; the disability adversely affects the student's educational performance and the student is in need of special education and related services…

(9) ***Other health impairment*** means having limited strength, vitality, or alertness, including a heightened alertness to environmental stimuli, that results in limited alertness with respect to the educational environment, that—

(i) Is due to chronic or acute health problems such as… *attention deficit disorder or* ***attention deficit hyperactivity disorder… lead poisoning***… (ii) Adversely affects a child's educational performance. [§300.8(c)(9)]

https://sites.ed.gov/idea/regs/b/a/300.8/c/9

LEAD DISCLOSURE FOR ALL

SALES
Lead-Based Paint and Lead-Based Hazards Disclosure Form

tial real property on which a residential dwelling was built pric
d from lead-based paint that may place young children at risk c
oduce permanent neurological damage, including learning disab

Seller's Disclosure (initial)
(a) Presence of lead
Known lead-ba

"has the child ever been medically diagnosed as lead poisoned?"

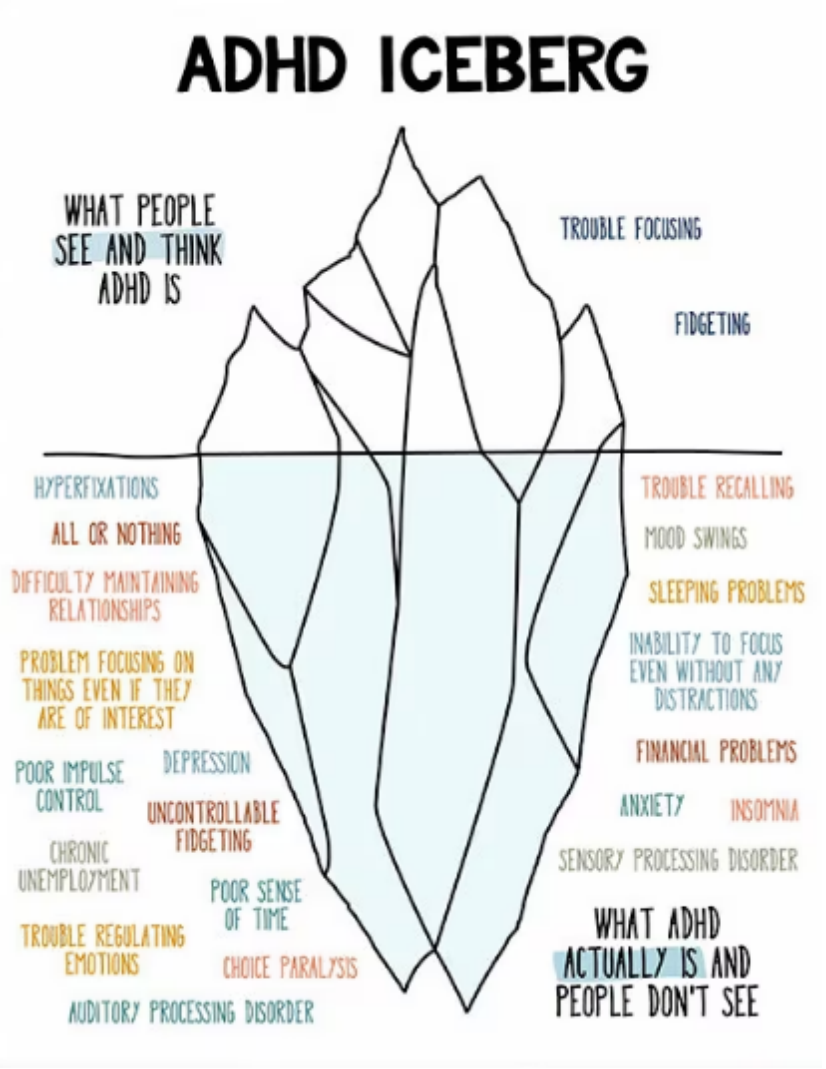
DOH AND DOE (D'OH!)

Title X Disclosure mentions:

- Permanent neurological damage
- Learning disabilities
- Reduced IQ
- Behavioral problems
- Impaired memory

Parents *need to know* about:

- Individuals with Disabilities Education Act
- Lag effects
- Neuropsychological assessments to determine accommodations
- *Individualized Education Plan from Kindergarten through high school*



SILENT PANDEMIC

1994: **8.9%** of US children 1-5 years old have lead levels at or above 10 ug/dL (AMA)
1997: Julian's initial lead **44** ug/dL
2004: Julian identified as gifted
2004: Julian diagnosed with **ADHD**

	FEBRUARY 2009 (*WIAT II*)	MAY 2004 (*Woodcock Johnson-Revised*)
READING	97	98
MATH	99	95
WRITING	98	92

LAG EFFECTS DEMONSTRATED

LAG 1	LAG 2		LAG 3	
FIRST GRADE/OH	**THIRD**	**FOURTH**	**SIXTH**	**SEVENTH**
Constructing Meaning	*Analyzing Text*	*Analyzing Text*	*Analyzing Text*	*Analyzing Text*
		Problem Solving	*Problem Solving*	*Problem Solving*
			Working with Text	*Working with Text*
			Writing: Persuasive	*Writing: Persuasive*
			Writing: Speculative	Writing: Explanatory

Lag #1: first grade, children begin acquiring basic academic skills: reading words or performing arithmetic operations;

Increased BLLs have been associated with difficulties with all three types of skills.

Lag #2: fourth grade, the emphasis begins to shift from acquiring basic skills to using those skills to learn new material ("reading to learn" as opposed to "learning to read");

Lag #3: sixth or seventh grade, students use higher-order planning and organizational skills in order to complete long-term projects.

	FIRST (OH)	THIRD	FOURTH	SIXTH	SEVENTH
LANGUAGE ARTS	222	*224*	*181*	*188*	*190*
MATHEMATICS	**251**	*240*	*212*	*205*	*215*

David Bellinger PhD and Leonard Rappaport MD, 2002 Results compiled from NJ Assessment of Skills and Knowledge and Ohio Off-Grade Proficiency Test Second Edition scores.

NEEDLEMAN 1979 DENTINE STUDY


The New England
Journal of Medicine

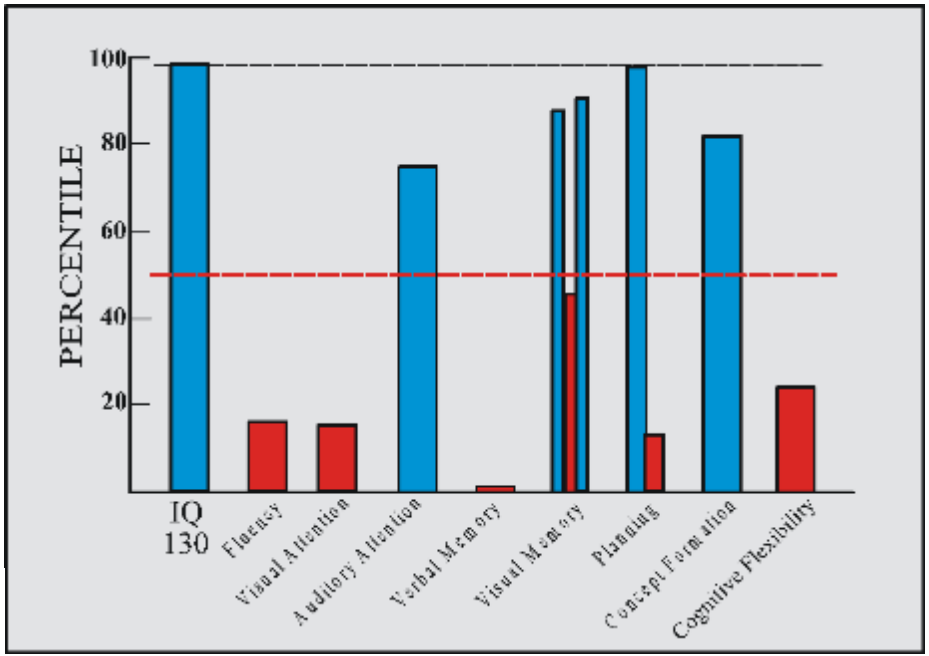
DEFICITS IN PSYCHOLOGIC AND CLASSROOM PERFORMANCE OF CHILDREN WITH ELEVATED DENTINE LEAD LEVELS

Herbert L Needleman MD, *et al.*, described how “disturbances of attentional function are a consistent effect of lead exposure... the deficit of attention in the children with high lead levels demonstrated here may be responsible in part for impaired verbal learning” (Needleman 694).

Sixth grade third quarter bi-weekly progress report	
NEEDLEMAN’S OBSERVATIONS	**JULIAN’S TEACHERS OBSERVATIONS**
Increased distractibility	Unfocused at times in class. (Science)
Increased prevalence of daydreaming	*All core classes, every year*
Lack of persistence	He is slipping. (Science) He is slacking off - not being accountable for turning in work completed! (Science)
Inability to follow directions	Needs to follow directions on HW. (Math)
Lack of organization	Not completing homework in a timely manner. (Science) Needs to hand work in on time, slacking. (Science) He hasn’t handed in his assignments or classwork. (English) Not handing in work he is doing for credit!! (Science)

ASSESSMENTS: COGNITIVE DETERIORATION

2007	2008
Expressive Language	Expressive Language
Verbal Learning	Verbal Learning
Visual Memory	Visual Memory
Planning	Planning
	Fine Motor
	Visual Attention
	Verbal Memory
	Abstract Reasoning



2007/6th grade, Jay S Schneider PhD
2008/7th grade, Theodore I Lidsky PhD
Graph courtesy of Dr Lidsky

MANIFESTATION: LAG EFFECT 3

Second Quarter Progress Report (7th) 11/11/08 -12/15/08

MATH 7	**F**	Lack of class prep/homework
SOC STD 7	**F**	Inattentive in Class
ENG 7	**F**	**May fail for the quarter**/neglected assignments
RDG 7	**F**	Assignments missing/incomplete
SCI 7	**F**	Assignments missing/incomplete, need to make up test/quiz
BAND 6-8	A	Keep up the good work. Works very hard

DEMONSTRATES HIGHER DROP-OUT RATES WITHOUT ACADEMIC INTERVENTION

Julian feels that some of his teachers are "against him" ~
Social Case Study, January 6, 2009

*"I don't see what the problem is. He **only** had elevated lead levels for **two years**"*

~ Riverside-Delanco (NJ) Child Study Team ***Psychologist***
December 9, 2008

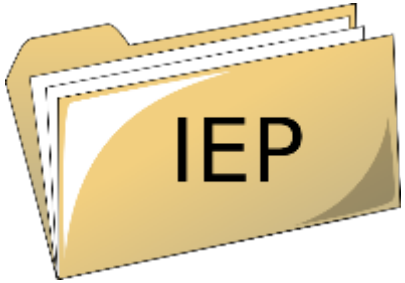
ROSEN'S *MAGICAL* LETTER

…As a result of my pediatric differential diagnosis, these cognitive deficits, that reflect ***brain damage****, were* ***caused by*** *his disease of* ***severe lead poisoning****; and these* ***intellectual impairments*** *are considered to be* ***permanent and irreversible****.*

In my extensive clinical experience, although Julian currently has a robust IQ, ***the cognitive deficits****, elicited by Dr. Lidsky, impose* ***several on-going limitations*** *on his productivity in school. In that* ***render his success*** *in high school* ***highly questionable****, unless he receives* ***support services now****.*

Rosen's letter to the Riverside-Delanco Child Study Team Director, January 2009.
John F Rosen MD treated over 30,000 children for lead poisoning during his career.

THE BATTLE FOR THE IEP: BEFORE, DURING AND AFTER…



	6TH	7TH	8TH	8TH TEACHER COMMENTS
MATH	74	85	91	
SOC ST	66	83	100	Is a pleasure to have in class. Dependable, cooperative
ENGLISH	85	80	94	Is a pleasure to have in class. Dependable, cooperative
READING	56	86	94	Improvement shown
SCIENCE	73	78	93	
MUSIC	100	100	100	

Fourth marking period grades during his three years in middle school.

Leann Howell
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