

This is not up to date (Mar. 8, 1943) except for the normal values at bottom.

RAK

# LEAD CONCENTRATION FOUND IN HUMAN TISSUES

## Summary of Our Cases

### In Fatal Tetraethyl Lead Intoxication

| <u>Identification<br/>by Initials</u> | <u>Lead in Milligrams per 100 grams of Fresh or Fixed Tissue</u> |               |              |                  |                  |
|---------------------------------------|------------------------------------------------------------------|---------------|--------------|------------------|------------------|
|                                       | <u>Liver</u>                                                     | <u>Kidney</u> | <u>Brain</u> | <u>Flat Bone</u> | <u>Long Bone</u> |
| R.G.                                  | 1.71                                                             | 0.97          | 0.61         |                  |                  |
| J.R.                                  | 3.02                                                             | 0.97          | 0.46         | 0.99             | 2.95             |
| E.R.                                  | 2.40                                                             | 0.84          | 0.56         | 2.50             | 2.62             |
| J.B.                                  | 2.90                                                             |               | 0.46         |                  | 1.12             |
| N.K.                                  | 2.54                                                             | 0.76          |              | 0.91             |                  |
| G.H.                                  | 2.00                                                             | 0.64          | 1.08         |                  |                  |
|                                       |                                                                  |               | 1.65         |                  |                  |
| H.O.                                  | 2.40                                                             | 1.31          | 0.85         |                  |                  |

### Chronic T.E.L. Exposure, With Death From Other Cause

|      |      |      |  |      |  |
|------|------|------|--|------|--|
| J.T. | 0.41 | 0.17 |  | 0.43 |  |
| W.C. | 0.54 | 0.25 |  | 1.58 |  |
|      |      |      |  | 1.87 |  |

### In Fatal Inorganic Lead Intoxication (Rare in adults)

|               |      |      |       |       |       |
|---------------|------|------|-------|-------|-------|
| J.G. (Diag.?) | 0.71 | 0.22 | 0.35  | 13.00 | 8.00  |
| A.J. (Child)  | 3.27 | 0.61 | 0.29  | 10.65 |       |
| S.J. (Child)  | 4.00 | 0.88 | 0.58  | 26.80 | 13.15 |
| D.S. (Child)  | 3.91 |      | 0.24- | 17.00 |       |
| V.W. (Child)  | 4.40 | 2.59 | 0.42  | 17.90 |       |
| L.D. (Child)  | 2.96 | 1.74 | 0.50- |       |       |

### Chronic Inorganic Lead Exposure, With Death From Other Cause

|      |      |      |      |      |  |
|------|------|------|------|------|--|
| E.W. | 0.60 | 0.15 |      |      |  |
| C.   | 0.71 | 0.08 |      | 4.53 |  |
| W.F. | 1.75 | 0.32 | 0.35 |      |  |
| A.   | 0.64 | 0.07 | 0.12 |      |  |

### Normal Values Minima and Maxima and Mean in mg/100 g. fresh tissue

|                  |           |            |           |           |           |               |
|------------------|-----------|------------|-----------|-----------|-----------|---------------|
| 15 cases - Range | 0.04-0.28 | 0.015-0.16 | 0.01-0.09 | 0.21-1.11 | 0.67-3.59 | <u>Muscle</u> |
|                  |           |            |           |           |           | 0.01-0.17     |
| Mean             | 0.12      | 0.05       | 0.04      | 0.65      | 1.78      | 0.03          |

Fatal Tetraethyl Lead Intoxication

| <u>Patient</u> | <u>Brain</u> | <u>Liver</u> | <u>Kidney</u> | <u>Flat Bone</u> | <u>Long Bone</u> |
|----------------|--------------|--------------|---------------|------------------|------------------|
| R.G.           | 0.61         | 1.71         | 0.97          |                  |                  |
| J.R.           | 0.46         | 3.02         | 0.97          | 0.99             | 2.95             |
| E.R.           | 0.56         | 2.40         | 0.84          | 2.50             | 2.62             |
| J.B.           | 0.46         | 2.90         |               |                  | 1.12             |
| N.K.           |              | 2.54         | 0.76          | 0.91             |                  |
| G.H.           | 1.08         | 2.00         | 0.64          |                  |                  |
|                | 1.65         |              |               |                  |                  |
| H.O.           | 0.85         | 2.40         | 1.31          |                  |                  |

Fatal Inorganic Lead Intoxication

|                |      |      |      |       |       |
|----------------|------|------|------|-------|-------|
| J.G. (Adult)   | 0.35 | 0.71 | 0.22 | 13.00 | 8.00  |
| A. J. (Child)  | 0.29 | 3.27 | 0.61 | 10.65 |       |
| S. Jr. (Child) | 0.58 | 4.00 | 0.88 | 26.80 | 13.15 |
| D.S. (Child)   | 0.24 | 3.91 |      | 17.00 |       |
| V.W. (Child)   | 0.42 | 4.40 | 2.59 | 17.90 |       |
| L.D. (Child)   | 0.50 | 2.96 | 1.74 |       |       |
| H.G. (Child)   | 0.14 | 3.25 | 0.76 | 6.31  |       |

Fifteen Cases Selected for Analysis on the Basis of Histories of Freedom from Occupational or Other Than Casual (Unavoidable) Exposure to Lead

Range of      0.01-0.09   0.04-0.28   0.015-0.16   0.21-1.11   0.67-3.59  
Concentration

Mean            0.04        0.12        0.05        0.65        1.78

Lead concentration in mg. per 100 gm. fresh or fixed human tissue.  
Illustrative data from a series of cases.