Attachment 6.3

Anniston Community Health Survey: Follow up Study and Dioxin Analyses

**Clinical Test Results Report**

Dear Participant,

The following tables show the results of clinical tests that we performed in your blood or serum on *mm/dd/yyyy.* The results that are out of normal range are marked red.

These clinical tests are mostly those that your doctor would perform in an office. We would advise you to go over the results with your doctor. If he or she has any questions about some of the more specialized tests we did, he/she can contact us at numbers provided below.

Because we are providing these results \_\_\_\_\_\_ months after your blood was collected, the results may be of limited value to you or your physician, especially if you are already under treatment or being followed for a particular chronic condition that the results indicate.

Some individuals will not have the measurements for all tests. You may not have a measurement for some test because your level is lower than the limit of detection. You may also not have a measurement because your blood sample failed one of the laboratory quality control procedures. If the reason for missing measurement is known, that reason will be included with your results.

You or your physician may contact us with questions about your clinical test results by calling ATSDR at 770-488-\_\_\_\_.

Thank you for your understanding and your participation in the study.

Sincerely,

Study investigators.

##

## Table 1. Results of your clinical tests for thyroid hormones, glycemic parameters, lipids, and liver function.

|  |  |  |  |
| --- | --- | --- | --- |
| ***Test name*** | **Your Result** | **Comparison Values** | **Comments** |
| ***Thyroid Hormones and Antibodies*** |  | **Clinical Ranges** |  |
| Total Triiodothyronine (TT3) |  | 80–180 ng/dL 1 |  |
| Total Thyroxin (TT4) |  | 4.5–12.5 µg/dL 1 |  |
| Thyroid Stimulating Hormone (TSH) |  | 0.30–3.0 mIU/L 1 |  |
| Free T3 Index |  | 80–180 1 |  |
| Free T4 |  | 0.8–2.0 ng/dL 1 |  |
| Free T4 Index |  | 4.5–12.5 1 |  |
| Thyroxin-Binding Globulin |  | 14–31 µg/mL 1 |  |
| Anti-Thyroglobulin Antibody |  | <0.4 U/mL 1 |  |
| Anti-Thyroid Peroxidase Antibody |  | <1.0 IU/mL 1 |  |
| Thyroid Hormone Binding Ratio |  | 0.72-1.24 1 |  |
|  |  |  |  |
| ***Glycemic Parameters*** |  | **Clinical Guidelines and Ranges** |  |
| Glucose, fasting, 8-hr |  | Diabetes Risk 2Hypoglycemic: <70 mg/dLNormal: 70-99 mg/dLIncreased Risk Diabetes: 100–125 mg/dLDiabetes: ≥126 mg/dL (confirmation required) | Critical Value: <40 mg/dL3Critical Value: >400 mg/dL3 |
| Insulin |  | <17 µU/ml 3 |  |
| Glycosylated Hemoglobin(HbA1c) |  | Diabetes Risk 2Normal: <5.7%Increased Risk Diabetes: 5.7-6.4%Diabetes: ≥6.5% (confirmation required) |  |
| Thyrosine Phosphatase-like Protein Autoantibodies (IA 2) |  | Negative Antibody: DK<5 3Positive Antibody: DK≥5 |  |
| Glutamate Decarboxylase -65 (anti-GAD 65) |  | Negative Antibody: DK≤33 3Positive Antibody: DK>33  |  |
|  |  |  |  |
| ***Lipids*** |  | **Clinical Guidelines and Ranges** |  |
| Total Cholesterol |  | Coronary Heart Disease Risk (CHD) 4Desirable: <200 mg/dL Borderline High: 200–239 mg/dLHigh: ≥240 mg/dL |  |
| Triglycerides |  | CHD Risk 4Desirable: <150 mg/dLBorderline High: 150–199 mg/dLHigh: 200–499 mg/dLVery High: ≥500 mg/dL | Critical Value: >1,500 mg/dL3 |
| Low Density Lipoprotein Cholesterol |  | CHD Risk 4Desirable: <100 mg/dLLow Risk: 100–129 mg/dLBorderline High: 130–159mg/dLHigh: 160–189 mg/dLVery High: ≥190 mg/dL |  |
| High Density Lipoprotein Cholesterol |  | CHD Risk 4Desirable: ≥60 mg/dLBorderline Risk: 40–60 mg/dLAt Risk: <40 mg/dL |  |
| Phospholipids |  | 150-250 mg/dL 3 |  |
| Free Fatty Acids |  | 0.01–0.6 mEq/L 3 |  |
|  |  |  |  |
| ***Liver Tests*** |  | **Clinical Ranges** |  |
| Alanine Aminotransferase (ALT) |  | 15–65 U/L 5 |  |
| Aspartate Aminotransferase (AST) |  | 5–40 U/L 5 |  |
| γ-Glutamyl Transferase (GGT) |  | Female 5–55 U/L; Male 5–85 U/L 5 |  |
| Alkaline Phosphatase (ALP) |  | Female: 50–136 U/L; Male: 40–136 U/L 5 |  |
| Albumin |  | 3.4–5.0 g/dL 5 | Critical Value: <1.5 g/dL 5Critical Value: >7.9 g/dL 5 |
| Direct Bilirubin |  | 0.0–0.3 mg/dL 5 | NA |
| Total Bilirubin |  | 0.0–1.0 mg/dL 5 | Critical Value: >12.9 mg/dL 5 |

## Table 2. Results of your clinical tests for heavy metals and trace metals.

|  |  |  |  |
| --- | --- | --- | --- |
| ***Test name*** | ***Your Result*** | ***Comparison Values*** | ***Comments*** |
| ***Heavy Metals*** |  | **Agency Guidelines, Standards, and****NHANES Reference Ranges** |  |
| Lead (Pb) |  | 1.34–3.90 µg/L 6 Desirable: <5.0 µg/dL7Elevated (Current or Potentially Pregnant or Lactating Women): 5.0–9.9 µg/dL7Elevated (All Adults): ≥10.0 µg/dL 9,10,11 (a.) |  |
| Mercury (Hg) |  | 0.89–5.32 µg/L6Desirable: <5.8 µg/L13\*Elevated (Current or Potentially Pregnant, Lactating Women): 5.8–10.0 µg/L 13\*Elevated (All Adults): >10.0 µg/L 14,15 (b.) |  |
| Cadmium (Cd) |  | 0.33–1.70 µg/L6[Nonsmokers: 0.3–1.2 µg/L 18][Smokers: 0.6–3.9 µg/L 18]Desirable: ≤5 µg/L 19,20, 21Elevated: >5 µg/L 19,20, 21 (c.) |  |
|  |  |  |  |
| ***Trace Metals*** |  |  |  |
| Manganese |  | 4.7–18.3 µg/L 24 (d.) |  |
| Selenium |  | 97.3–176.9 μg/L 25 (e.) |  |
|  |  |  |  |

ADDITIONAL COMMENTS, INCLUDING DETAILED REFERENCES WILL BE A PART OF THE REPORT TO THE PARTICIPANT ONLY IF ANY MEASUREMENTS ABOVE CRITICAL/ACTION LEVELS ARE FOUND TO BE PRESENT OR IF MORE DETAIL IS REQUESTED BY THE PARTICIPANT OR HIS/HER PHYSICIAN

Additional comments related to elevated levels of heavy metals and trace metals for you or your physician.

1. Elevated Lead levels

*Action Level for women who are or might become pregnant or lactating:* 5.0–9.9 µg/dL(CDC advisory level exceeded; discuss health risks; seek medical advice; reduce exposure; breastfeed with infant BLL monitoring)7,8

*Action Level All Adults:* 10.0–39.9 µg/dL (CDC advisory threshold exceeded; seek medical evaluation; removal from exposure for women who are or might become pregnant or lactating; reduce exposure all others; breastfeed with infant BLL monitoring) 7,8,9,10,11

*Action Level All Adults:* ≥40.0 µg/dL (OSHA threshold exceeded; prompt medical evaluation; reduce exposure; pump breast milk and discard until BLL <40 µg/dL) 7,8,12

*Action Level All Adults:* ≥50.0 µg/dL (OSHA threshold exceeded; prompt medical evaluation; removal from exposure; ; pump breast milk and discard until BLL <40 µg/dL) 7,8,12

*Action Level All Adults:* ≥80.0 µg/dL (OSHA threshold exceeded; immediate medical evaluation; removal from exposure; pump breast milk and discard until BLL <40 µg/dL) 7,8,11,12

1. Elevated Mercury levels

*Action Level for women who are or might become pregnant or lactating:* 5.8–10.0 µg/dL13

*Action Level All Adults:* >10.0 µg/L14,15,16, 17

*Action Level All Adults*: ≥50 µg/L (immediate medical evaluation)18

1. Elevated Cadmium levels

*Action Level All Adults*: >5 µg/L (OSHA threshold exceeded; medical monitoring among workers; discretionary medical removal) 19,20, 21

*Action Level All Adults*: >15 µg/L: (OSHA threshold exceeded; medical removal from exposure) 19, 20, 21

*Toxic Range:* 100–3,000 µg/L 22

1. Elevated Manganese levels23

Critical Value: >37 µg/L 24

1. Elevated Selenium levels23

Critical Value: <50 μg/L 25

Critical Value: >300 μg/L 25

**References:**

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8 Kosnett MJ, Wedeen RP, Rothenberg SJ, Hipkins KL, Materna BL, Schwartz BS, Hu H, Woolf A. Recommendations for medical management of adult lead exposure. Environ Health Perspect. 2007;115(3):173-181.

9 CDC. 2012. Nationally Notifiable Non-Infectious Conditions Case Definition (<http://wwwn.cdc.gov/nndss/document/2012_Case%20Definitions.pdf>).

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12 OSHA General Industry and Construction Lead Standard Medical Surveillance Guidelines (29 CFR 1910.1025App C and 29 CFR 1926.62 App C, respectively).

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14 CDC. 2006. Emergency Preparedness and Response: Case Definitions for Chemical Poisoning – Mercury (Elemental, Inorganic, Organic) (<http://emergency.cdc.gov/agent/mercury/> ).

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