

Attachment 1c

Form Approved
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National Health and Nutrition Examination Survey (NHANES) Blood Draw – Infants (0 to less than 12 months) Pilot Study

2020 NHANES Health Measurements List

Below is a list of tests you may receive on the day of your examination.
You will only have the test if your age falls within the ages shown in parenthesis.
You will receive the results of health measures shown with a black diamond (◆).
Two diamonds (◆◆) means you will receive the test result only if high or abnormal.

Health Measurements

You will be weighed and measured (all) ◆
The doctor will take your blood pressure (8+) ◆
We will look at the condition of your teeth and gums (1+) ◆
You will have a body composition test that involves low-dosage x-rays (*Pregnant women will not have this test*)
 Total body scan (8-59) ◆
 Hip and spine bone density scan (50+) ◆

You will have a liver ultrasound elastography test (12+) ◆
You will have a hearing test (6-19, 70+) ◆
You will have an eye test to:
 Recognize smaller letters (40+) ◆
 Check light versus dark letters (40+) ◆
You will have your balance tested (40+) ◆

Private Interviews

You will be asked to answer questions about:
Eating habits (all)
Weight history (8-15)
 Reproductive history (females 12+)
You will be asked questions to assess your memory and problem-solving ability (60+) ◆

Lab Tests on Urine (3+)

You will be given a clean empty cup when you arrive at the exam center. When you change into the exam clothes in a private rest room, you will provide a urine sample. The urine will be tested for:
Exposure to environmental chemicals and metals
Arsenic 3+ ◆◆
Nickel 3+ ◆
Kidney function tests (3+) ◆
Sexually transmitted diseases:
 Chlamydia (14-39) ◆
 Trichomonas (14-59) ◆
(*Urine is not tested for illicit drug use*)

Lab Tests on Blood

You will have your blood drawn. The blood will be tested for:
Anemia (all participants) ◆
Cholesterol (6+) ◆
Exposure to certain environmental chemicals (selected participants – blood 12+)
Exposures to environmental metals such as Lead and Mercury (all participants) ◆
Glucose (12+) ◆
Thyroid & steroid hormones (6+) ◆
Infectious diseases
 Cytomegalovirus (CMV) (1-5) ◆◆
 Hepatitis B virus (2+) ◆◆
 Hepatitis C virus (6+) ◆◆

Drug use (12+), alcohol and tobacco use (12+), and sexual history (14-69)
(You will do these by yourself using a touch-screen computer in privacy)

Herpes simplex virus type 2 (14-49) ♦
Human immunodeficiency virus (HIV) (18-59) ♦
Human papillomavirus (HPV) (14-59)
Inherited hemoglobin variants (such as Sick cell) (12+) ♦♦
Kidney and liver function (12+) ♦
Nutrition status (all participants) ♦

Women and girls only:

You will be asked to self-administer a vaginal swab in complete privacy. The swab will be tested for the presence of Human Papillomavirus. (14-59)

Females 12-59 years old will have a urine pregnancy test, as well as girls 8-11 who have started their menstrual periods. Our physician will tell you if you are pregnant if you did not already know it. Parents of girls younger than 14 years of age who are pregnant will also be informed of the result.

Men and boys only:

You will be asked to self-administer a penile swab in complete privacy. The swab will be tested for the presence of Human Papillomavirus (14-59).

After your visit to the NHANES mobile center:

If you had a dietary interview as part of your exam, you will get a phone call 3-10 days after the exam to be asked similar dietary questions. You or an adult in your family (if you are between 1-15 years old) will also be asked about food shopping habits.

Taking part in these interviews and health measures after your visit to the mobile center is voluntary. If you have questions about getting your results, please call 1-800-452-6115. Please see the following pages for more detailed list of lab tests.

Biochemical Profile (all participants 12+) ♦

- Alanine Aminotransferase (ALT)
- Albumin
- Alkaline Phosphatase (ALP)
- Aspartate Aminotransferase (AST)
- Bicarbonate
- Blood Urea Nitrogen (BUN)
- Calcium
- Creatinine
- Creatine Phosphokinase (CPK)
- Gamma Glutamyltransaminase (GGT)
- Glucose
- Iron
- Lactate Dehydrogenase (LDH)

Inflammatory Disease Profile

- High-Sensitivity C-reactive Protein (1+)
- C-reactive Protein (<12 months) ♦

Kidney Disease Profile ♦ (+ creatinine, BUN in biochemical profile)

- Urine Albumin (3+)
- Urine Albumin Creatinine ratio (3+)
- Urine Creatinine (3+)
- Urine flow rate (3+)

Lipid Profile

- Total Cholesterol (6+) ♦
- High Density Lipoprotein (HDL)-Cholesterol (6+) ♦
- Low Density Lipoprotein (LDL)-

- Phosphorus
- Sodium
- Potassium
- Chloride
- Total Protein
- Uric Acid

Diabetes Profile

- Fasting Glucose (*all morning participants 12+*) ♦
- Insulin (*all morning participants 12+*)
- Hemoglobin A1c (*12+*) ♦

Infectious Disease Profile

- Chlamydia trachomatis (*14-39*) ♦
- Cytomegalovirus antibody (CMV) (*1-5*) ♦♦
- Hepatitis B antibody (*2+*) ♦♦
- Hepatitis C virus (*6+*) ♦♦
- Herpes simplex virus type 2 (*14-49*) ♦
- Human immunodeficiency virus (HIV) (*18-59*) ♦
- Human Papillomavirus (HPV) (*14-59 for swabs; 14-69 for oral rinse*)
- Trichomonas (*14-59*) ♦
- Tuberculosis (select participants *6+*) ♦

Environmental Health Profile

- Adducts of Hemoglobin (*1/3 participants ages 6+*)
- Aromatic Amines (Urine) (*all participants 3-5, 1/3 participants 6+*)
- Flame Retardant Metabolites (*blood – 12+ and urine – all participants 3-5, 1/3 participants 6+*)
- Insecticides, pesticides, herbicides, fungicides and metabolites (*blood - 1/3 participants 12+, urine – all participants 3-5, 1/3 participants 6+*)
- Perchlorate, thiocyanate, and nitrates (*all participants 3-5, 1/3 participants 6+*)
- Perfluoroalkyl and Polyfluoroalkyl Substances (*all 0 - <12months, 1/3 participants 12+*)
- Phthalates and Personal Care and Consumer Product Chemicals and Metabolites (*all participants 3-5, 1/3 participants 6+*)
- Polybrominated Diphenyl Ethers (*1/3 participants 12+*)
- Polycyclic Aromatic Hydrocarbons (PAH) (*all participants 3-5, 1/3 participants 6+*)
- Tobacco Biomarkers (*all participants 3-5, 1/3*

Cholesterol (*12+*) ♦

- Triglycerides (*12+*) ♦

Liver Disease Profile (+ ALT ALP, AST, GGT in biochemical profile)

- Total Bilirubin (*12+*) ♦
- Genetic variants for susceptibility to liver related diseases (*18+*)

Nutritional Laboratory Tests

- Complete blood count (*all participants*) ♦
- Fatty acids (*6+*) ♦
- Ferritin (*all participants 0-5 and 12+*) ♦
- Folate (*all female participants 12-49, ½ others 1+, all <12 months*) ♦
- Hemoglobin variants, for example hemoglobin S (sickle cell disease) (*12+*) ♦♦
- Iron (*12+*)
- Red Blood Cell (RBC) folate (*female participants 12-49, ½ others 1+*)♦
- RBC folate forms (*6+*) ♦
- Transferrin receptor (*all participants 1-5, female participants 12-49*) ♦
- Unsaturated Iron Binding Capacity (UIBC) (*12+*) ♦
- Vitamin D (*<12 months*)

Thyroid Disease Profile (all participants 3-5, 1/3 participants 6+) ♦

- Thyroid Stimulating Hormone
- Triiodothyronine (T3), Total and Free
- Thyroxine (T4), Total and Free
- Thyroglobulin
- Thyroglobulin antibodies
- Anti-thyroid peroxidase (TPO)
- Androstenedione

Steroid hormones (*all participants 6+*) ♦

- 17 α -Hydroxyprogesterone (*17-OHP*)
- Anti-Mullerian hormone (AMH)
- Dehydroepiandrosterone sulfate (DHEAS)
- Estradiol
- Follicle stimulating hormone (FSH)
- Luteinizing hormone (LH)
- Progesterone

- participants 6+*
- Volatile Organic Compounds (*1/2 participants 12+*)
- Metals/Elements
 - Cadmium (*<12 months; 1+ ♦*)
 - Cobalt (*40+*)
 - Chromium (*40+*)
 - Lead (*all participants*) ♦
 - Manganese (*<12 months; 1+ ♦*)
 - Mercury/Mercury Speciation (*all participants*) ♦
 - Selenium (*<12 months; 1+ ♦*)
 - Trace Metals/Elements (*all participants 3-5, 1/3 participants 6+*)
 - Arsenic ♦♦
 - Barium
 - Molybdenum
 - Strontium
 - Tin
 - Uranium
 - Antimony
 - Cesium
 - Nickel ♦
 - Thallium
 - Tungsten
 - Iodine

- Steroid Hormone Binding Globulin (SHBG)
- Testosterone

Household water sample

- Fluoride (*all Households with participants 0-19 who are examined in mobile exam center*) ♦

Household table salt sample

Iodine (*all Households*) ♦