



## DIAGNOSTIC ACCREDITATION PROGRAM

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# Laboratory Medicine Proficiency Testing: Reportable Measurands by Service

**measurand** A quantity intended to be measured. The specification of a measurand requires knowledge of the kind of quantity, description of the substance carrying the quantity, including any relevant component, and the chemical entities involved.<sup>1</sup>

Measurand includes the specific examination/analyte, the methodology and the sample type.

**Example:** A lab offers creatinine by Jaffe method and creatinine by Enzymatic method; and both methods are performed on serum and urine, the lab must monitor both creatinine methods with commercial PT programs covering both sample types.

Diagnostic Accreditation Program (DAP) reportable measurands require participation in a commercially available proficiency testing (PT) program and are subject to the DAP PT monitoring program.

All measurands not listed below are considered non-reportable and are not subject to the DAP PT monitoring program, but PT performance will be considered during the facility assessment by DAP accreditation assessment officers and/or peer assessors.

Non-reportable measurands must participate in proficiency testing activities as deemed appropriate by the laboratory medical director or designate. This could involve participation in commercially available PT programs or the development of alternate assessment procedures.

### Anatomic pathology

- Immunohistochemistry – CD117
- Immunohistochemistry – estrogen receptor (ER)
- Immunohistochemistry – HER2
- Immunohistochemistry – Ki-67
- Immunohistochemistry – mismatch repair (MMR)

### Chemistry

- |                          |                 |               |
|--------------------------|-----------------|---------------|
| • 1,25-diOH Vitamin D    | • 5-HIAA        | • ACTH        |
| • 17-Hydroxyprogesterone | • Acetaminophen | • Albumin     |
| • 25-OH Vitamin D        | • Acetone       | • Aldosterone |

- Alkaline phosphatase
- Alpha 1-antitrypsin
- Alpha 1-antitrypsin genotype
- Alpha-fetoprotein (AFP)
- ALT
- Amikacin
- Ammonia
- Amphetamine
- Amylase
- Androstenedione
- Anti-deaminated gliadin peptide (anti-DGP) , IgA and IgG
- Anti-DNA antibody double stranded
- Anti-gliadin antibody (IgA)
- Anti-Müllerian hormone
- Antineutrophil cytoplasmic antibody (ANCA, anti-MPO, anti-PR3)
- Antinuclear antibody (ANA)
- Anti-tissue transglutaminase (tTG), IgA and IgG
- Anti-thyroid receptor antibody
- Anti-TPO antibody
- Apolipoprotein A1
- Apolipoprotein B
- Apolipoprotein E genotype
- Arsenic
- AST
- Barbiturates
- Benzodiazepines
- Beta-2 microglobulin
- Beta-hydroxybutyrate
- Bilirubin, direct
- Bilirubin, total
- Blood gases – pCO<sub>2</sub>
- Blood gases – pH
- Blood gases – pO<sub>2</sub>
- BNP / NT-proBNP
- CA 125
- CA 15-3
- CA 19-9
- CA 27.29
- Calcitonin
- Calcium, ionized
- Calcium, total
- Cannabinoids
- Carbamazepine
- Catecholamines
- Ceruloplasmin
- Chloride
- Cholesterol, HDL
- Cholesterol, LDL
- Cholesterol, total
- CO<sub>2</sub>, total
- Cocaine derivatives
- Complement C3
- Complement C4
- Copper
- Cortisol
- C-peptide
- C-reactive protein (CRP)
- Creatine kinase (CK)
- Creatinine
- Cyclic citrullinated peptide (CCP)
- Cyclosporine
- Delta-9-THC-COOH
- DHEA / DHEA sulfate
- Digoxin
- Epinephrine
- Erythropoietin
- Estradiol
- Ethanol
- Ethylene glycol
- Extractable nuclear antigens, screen and antigens (SS-A/Ro, SS-B/La, RNP, Sm, Scl-70 and Jo1)
- Fentanyl
- Ferritin
- Fetal fibronectin (fFN)
- Folate
- Follicle-stimulating hormone (FSH)
- Gamma-glutamyl transferase (GGT)
- Gastrin
- Gentamicin
- Glucose
- Growth hormone (GH)
- Haptoglobin
- Hemoglobin A1C
- Homocysteine
- Homovanillic acid
- Human chorionic gonadotropin (hCG)
- IgA
- IgD
- IgE – allergen specific
- IgE, total
- IgG
- IgM
- Insulin
- Insulin-like growth factor (IGF-1)
- Iron, total
- Isopropanol
- Kappa/lambda light chains
- Lactate
- Lactate dehydrogenase (LD)
- Lead, blood
- Lipase
- Lipoprotein (a)
- Lithium
- Luteinizing hormone (LH)
- Magnesium
- Mercury
- Metanephrines
- Methadone
- Methadone metabolite (EDDP)
- Methamphetamine
- Methanol
- Methotrexate
- Methylenedioxy-methamphetamine (MDMA)
- Mycophenolic acid (MPA)
- Norepinephrine
- Occult blood – fecal, automated/manual

- Occult blood – gastric fluid
- Oligoclonal banding
- Opiates
- Osmolality
- Oximetry
- Oxycodone
- Parathyroid hormone (PTH)
- Phenobarbital
- Phenytoin
- Phosphorus
- Porphobilinogen
- Potassium
- Prealbumin
- Procalcitonin
- Progesterone
- Prolactin
- Prostate specific antigen (PSA), free
- Prostate specific antigen (PSA), total
- Protein electrophoresis, including urine Bence Jones proteins
- Protein, total
- Renin
- Rheumatoid factor (RF)
- Salicylate
- Selenium
- Sex hormone binding globulin (SHBG)
- Sirolimus
- Sodium
- T3, free
- T4, free
- Tacrolimus
- Testosterone
- Theophylline
- Thyroglobulin
- Thyroglobulin antibody
- Thyroid-stimulating hormone (TSH)
- Tobramycin
- Total bile acid
- Total Iron-binding capacity (TIBC)
- Transferrin
- Triglycerides
- Troponin I/Troponin T
- Tryptase
- Unsaturated iron-binding capacity (UIBC)
- Urea
- Uric acid
- Valproic acid
- Vancomycin
- Vanillylmandelic acid (VMA)
- Viscosity
- Vitamin A
- Vitamin B12
- Vitamin B12, active
- Vitamin E
- Voriconazole
- Zinc

### Cytogenetics

- Cytogenetics – routine (chromosome analysis and karyotyping)
- Cytogenetics – fluorescence in situ hybridization (FISH)
- Chromosome microarray analysis

### Hematology (includes coagulation)

- Activated partial thromboplastin time (aPTT)
- Anti-beta-2-glycoprotein (IgG, IgM)
- Anti-cardiolipin antibody (IgG, IgM)
- Anti-thrombin activity/antigen
- Blood parasites (where thick blood films are examined)
- Body fluid cell count – automated/manual
- Cell identification/morphology
- D-dimer
- Erythrocyte count (RBC) – automated/manual
- Erythrocyte sedimentation rate (ESR) – automated
- Factor assays\*
- Factor VIII Inhibitor
- Fibrinogen
- Flow cytometry testing (enumerated markers) – PNH, CD4/CD8, CD34+, leukemia panel, lymphoproliferative panel
- Glucose-6-phosphate dehydrogenase (G-6-PD)
- Hematocrit (HCT) – automated
- Hemoglobin (Hb) – automated
- Hemoglobinopathy testing\*
- Heparin quantitation
- Heparin-induced thrombocytopenia (HIT)
- Infectious mononucleosis
- International normalized ratio (INR)
- Lamellar body count
- Leukocyte count (WBC) – automated/manual
- Lupus anticoagulant (e.g. dRVVT or other phospholipid assay)
- Malaria – rapid antigen detection

- Mean cell volume (MCV) – automated
- Mean platelet volume (MPV) – automated
- Platelet aggregation
- Platelet count – automated
- Platelet distribution width (PDW) – automated
- Protein C activity/antigen
- Protein S activity/antigen
- Red cell distribution width (RDW) – automated
- Reticulocyte count – automated
- Semen analysis – count, presence/absence, motility, morphology
- Sickle cell screen by solubility
- Thromboelastography/ROTEM
- von Willebrand factor activity/ antigen
- WBC differential – automated/manual

\*Categories indicated by an asterisk include all types of service that are offered in that category.

### Microbiology

- Acid fast stains
- Antimicrobial susceptibility testing
- Anti-streptolysin O, (ASO) quantitative
- Bacterial antigen detection
- Bacterial identification
- Enteric parasite identification
- Gram stains
- KOH preparation/calcofluor white
- Molecular multiplex panels
- Mycobacterial identification
- Mycological antigen detection
- Mycological identification
- Nucleic acid amplification (NAA)
- Parasite antigen detection
- Viral antigen detection
- Viral identification
- Viral serology

### Point-of-care testing

- Activated clotting time
- Blood gases – pCO<sub>2</sub>
- Blood gases – pH
- Blood gases – pO<sub>2</sub>
- Chloride
- Creatinine
- Glucose
- Hematocrit
- Hemoglobin
- Hemoglobin A1c
- International normalized ratio (INR)
- Potassium
- Sodium
- Troponin I/Troponin T

### Transfusion medicine

- ABO grouping
- Antibody identification
- Compatibility testing
- Direct antiglobulin test (DAT)
- Fetal maternal hemorrhage/fetal red cell detection – qualitative and quantitative
- Rh (D) typing
- Unexpected antibody detection

### References

1. Bureau International des Poids et Mesures (BIPM). *International Vocabulary of Metrology – Basic and General Concepts and Associated Terms* (VIM, 3<sup>rd</sup> edition, JCGM 200:2012).