# MEDICAL LABORATORY EVALUATION

## PARTICIPANT SUMMARY

# 2 • 0 • 1 • 9

Hematology, Coagulation,
Blood Bank, Urinalysis, PPM
2019 MLE-M2

ACP | Medical Laboratory Evaluation

Total Commitment to Education and Service
Provided by ACP, Inc.

# Table of Contents

# Table of Contents (cont'd)

## Hematology (cont'd)



## Blood Bank



## Coagulation

# Table of Contents (cont'd)

## Urinalysis



## Provider-Performed Microscopy (PPM)

# EVALUATION CRITERIA

The evaluation criteria used in the MLE Program is in accordance with the Clinical Laboratory Improvement Amendments of 1988 (CLIA '88) federal requirements for proficiency testing. The criteria are included below.

## Qualitative

For qualitative procedures, evaluation is based on participant or referee consensus. If participant consensus is not reached, CMS requirements call for grading by referee consensus. A minimum percentage of participants or referee laboratories must receive a passing score or the challenge is not evaluated due to lack of consensus. These percentages are listed below.

| | |
|---|---|
| ABO Group | 95% Participant or 100% Referee Consensus |
| Antibody Identification | 95% Consensus |
| Blood Cell Identification | 80% Consensus |
| Compatibility Testing | 95% Participant or 100% Referee Consensus |
| Creatinine (Semi-Quantitative) | 80% Consensus |
| Crystal Identification | 80% Consensus |
| Fecal Occult Blood | 80% Consensus |
| KOH Skin Preparation | 80% Consensus |
| Microalbumin (Semi-Quantitative) | 80% Consensus |
| Provider-Performed Microscopy | 80% Consensus |
| Rh Factor (D Type) | 95% Participant or 100% Referee Consensus |
| Unexpected Antibody Detection | 95% Consensus |
| Urine Dipstick | 80% Consensus |
| Urine hCG | 80% Consensus |
| Urine Sediment Identification | 80% Consensus |

## Quantitative

For quantitative procedures, a mean and standard deviation (SD) are calculated for each peer group consisting of 10 or more laboratories except for Coagulation (CG Specimens) which consist of peer groups of 5 or more laboratories. Acceptable performance is established on a target value ± the intervals below. An explanation on how to calculate the range of acceptability based upon these limits is also provided in your MLE Program Guide on page 37 under the heading "Acceptable Ranges for Quantitative Results."

| | |
|---|---|
| Activated Partial Thromboplastin Time | ± 15% |
| Automated Differential | ± 3 SD |
| Blood Lead | ± 4 µg/dL or ± 10%* |
| Body Fluid - Red Cell Count | ± 2 SD |
| Body Fluid - White Cell Count | ± 2 SD |
| Creatinine, Urine (Quantitative) | ± 17% |
| Fibrinogen | ± 20% |
| Hematocrit | ± 6% |
| Hematocrit, Waived | ± 6% or ± 2 SD* |
| Hemoglobin | ± 7% |
| Hemoglobin, Waived | ± 7% or ± 2 SD* |
| International Normalized Ratio (INR) | ± 20% |
| Microalbumin (Quantitative) | ± 30% |
| Platelet Count | ± 25% |
| Prothrombin Time | ± 15% |
| Red Blood Cell Count | ± 6% |
| Reticulocyte Count | ± 30% or ± 2 SD* |
| Sedimentation Rate | ± 2 SD |
| Specific Gravity | ± 0.010 |
| White Blood Cell Count | ± 15% |
| Whole Blood Glucose – HemoCue | ± 12 mg/dL or ± 20%* |

*Whichever is greater

## HEMOCUE HEMATOLOGY–HEMOGLOBIN (g/dL)

| | Specimen HQ-3 | | | | | | Specimen HQ-4 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 32 | 13.12 | 0.27 | 2.1 | 13.1 | 12.2 - 14.1 | 34 | 4.87 | 0.23 | 4.8 | 4.9 | 4.5 - 5.3 |
| HemoCue 201/+ | 32 | 13.12 | 0.27 | 2.1 | 13.1 | 12.2 - 14.1 | 34 | 4.87 | 0.23 | 4.8 | 4.9 | 4.5 - 5.3 |

## HEMOCUE HEMATOLOGY–GLUCOSE (mg/dL)

| | Specimen HQ-3 | | | | | | Specimen HQ-4 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 30 | 118.2 | 7.3 | 6.2 | 117 | 94 - 142 | 29 | 43.0 | 5.0 | 11.7 | 43 | 30 - 55 |
| All HemoCue Methods | 28 | 118.6 | 7.4 | 6.3 | 117 | 94 - 143 | 27 | 43.4 | 4.9 | 11.4 | 43 | 31 - 56 |
| HemoCue Glucose 201/+ | 27 | 118.3 | 7.4 | 6.2 | 117 | 94 - 142 | 27 | 43.4 | 4.9 | 11.4 | 43 | 31 - 56 |

## SEDIMENTATION RATE (MM/HR)

| | Specimen ES-3 | | | | | | Specimen ES-4 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 95 | 44.0 | 10.5 | 23.7 | 41 | 23 - 65 | 96 | 7.1 | 2.8 | 39.1 | 7 | 1 - 13 |
| All Automated Methods | 25 | 55.2 | 9.9 | 17.9 | 54 | 35 - 75 | 25 | 7.8 | 3.4 | 43.8 | 7 | 0 - 15 |
| All Manual Methods | 70 | 40.6 | 8.6 | 21.3 | 38 | 23 - 58 | 71 | 7.1 | 2.7 | 38.5 | 7 | 1 - 13 |
| All Vital Diagnostics Methods | 14 | 54.3 | 8.4 | 15.5 | 52 | 37 - 72 | 14 | 6.7 | 1.8 | 26.4 | 7 | 3 - 11 |
| Westergren - diluted | 59 | 40.5 | 8.1 | 19.9 | 38 | 24 - 57 | 60 | 6.8 | 2.6 | 38.5 | 7 | 1 - 13 |

## SEDIMAT SEDIMENTATION RATE (MM/HR)

| | Specimen MAT-3 | | | | | | Specimen MAT-4 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| Polymedco Sedimat 15 | 12 | 63.5 | 6.2 | 9.8 | 63 | 51 - 76 | 12 | 2.5 | 0.9 | 36.2 | 3 | 0 - 5 |

## HEMATOLOGY W/ 5-PART DIFFERENTIAL–WHITE BLOOD CELL COUNT (x K/uL)

| | Specimen CL-6 | | | | | | Specimen CL-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 14 | 7.21 | 0.49 | 6.8 | 7.3 | 6.1 - 8.3 | 14 | 9.48 | 0.53 | 5.6 | 9.6 | 8.0 - 11.0 |
| All Abbott Cell-Dyn Instruments | 12 | 7.27 | 0.10 | 1.3 | 7.3 | 6.1 - 8.4 | 12 | 9.57 | 0.21 | 2.2 | 9.6 | 8.1 - 11.1 |
| Abbott Cell-Dyn Ruby | 10 | 7.27 | 0.10 | 1.3 | 7.3 | 6.1 - 8.4 | 10 | 9.57 | 0.21 | 2.2 | 9.6 | 8.1 - 11.1 |
| | **Specimen CL-8** | | | | | | **Specimen CL-9** | | | | | |
| All Method | 14 | 2.93 | 0.25 | 8.5 | 3.0 | 2.4 - 3.4 | 14 | 19.44 | 1.23 | 6.3 | 19.6 | 16.5 - 22.4 |
| All Abbott Cell-Dyn Instruments | 12 | 2.99 | 0.13 | 4.5 | 3.0 | 2.5 - 3.5 | 12 | 19.49 | 0.49 | 2.5 | 19.5 | 16.5 - 22.5 |
| Abbott Cell-Dyn Ruby | 10 | 2.99 | 0.13 | 4.5 | 3.0 | 2.5 - 3.5 | 10 | 19.49 | 0.49 | 2.5 | 19.5 | 16.5 - 22.5 |
| | **Specimen CL-10** | | | | | | | | | | | |
| All Method | 14 | 2.99 | 0.32 | 10.7 | 3.0 | 2.5 - 3.5 | | | | | | |
| All Abbott Cell-Dyn Instruments | 12 | 3.07 | 0.20 | 6.4 | 3.0 | 2.6 - 3.6 | | | | | | |
| Abbott Cell-Dyn Ruby | 10 | 3.07 | 0.20 | 6.4 | 3.0 | 2.6 - 3.6 | | | | | | |

## HEMATOLOGY W/ 5-PART DIFFERENTIAL–RED BLOOD CELL COUNT (x M/uL)

| | Specimen CL-6 | | | | | | Specimen CL-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 14 | 4.531 | 0.112 | 2.5 | 4.56 | 4.25 - 4.81 | 14 | 6.514 | 0.192 | 3.0 | 6.55 | 6.12 - 6.91 |
| All Abbott Cell-Dyn Instruments | 12 | 4.589 | 0.055 | 1.2 | 4.60 | 4.31 - 4.87 | 12 | 6.613 | 0.126 | 1.9 | 6.60 | 6.21 - 7.01 |
| Abbott Cell-Dyn Ruby | 10 | 4.589 | 0.055 | 1.2 | 4.60 | 4.31 - 4.87 | 10 | 6.613 | 0.126 | 1.9 | 6.60 | 6.21 - 7.01 |
| | **Specimen CL-8** | | | | | | **Specimen CL-9** | | | | | |
| All Method | 14 | 2.278 | 0.050 | 2.2 | 2.27 | 2.14 - 2.42 | 14 | 5.286 | 0.116 | 2.2 | 5.31 | 4.96 - 5.61 |
| All Abbott Cell-Dyn Instruments | 12 | 2.290 | 0.051 | 2.2 | 2.27 | 2.15 - 2.43 | 12 | 5.340 | 0.072 | 1.3 | 5.35 | 5.01 - 5.67 |
| Abbott Cell-Dyn Ruby | 10 | 2.290 | 0.051 | 2.2 | 2.27 | 2.15 - 2.43 | 10 | 5.340 | 0.072 | 1.3 | 5.35 | 5.01 - 5.67 |
| | **Specimen CL-10** | | | | | | | | | | | |
| All Method | 14 | 2.290 | 0.057 | 2.5 | 2.30 | 2.15 - 2.43 | | | | | | |
| All Abbott Cell-Dyn Instruments | 12 | 2.306 | 0.035 | 1.5 | 2.30 | 2.16 - 2.45 | | | | | | |
| Abbott Cell-Dyn Ruby | 10 | 2.306 | 0.035 | 1.5 | 2.30 | 2.16 - 2.45 | | | | | | |

## HEMATOLOGY W/ 5-PART DIFFERENTIAL–HEMOGLOBIN (g/dL)

| | Specimen CL-6 | | | | | | Specimen CL-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 14 | 13.18 | 0.50 | 3.8 | 13.4 | 12.2 - 14.2 | 14 | 17.77 | 0.72 | 4.0 | 18.0 | 16.5 - 19.1 |
| All Abbott Cell-Dyn Instruments | 12 | 13.29 | 0.34 | 2.5 | 13.3 | 12.3 - 14.3 | 12 | 17.99 | 0.35 | 2.0 | 18.0 | 16.7 - 19.3 |
| Abbott Cell-Dyn Ruby | 10 | 13.29 | 0.34 | 2.5 | 13.3 | 12.3 - 14.3 | 10 | 17.99 | 0.35 | 2.0 | 18.0 | 16.7 - 19.3 |
| | **Specimen CL-8** | | | | | | **Specimen CL-9** | | | | | |
| All Method | 13 | 5.70 | 0.15 | 2.6 | 5.7 | 5.3 - 6.1 | 14 | 16.22 | 0.55 | 3.4 | 16.3 | 15.0 - 17.4 |
| All Abbott Cell-Dyn Instruments | 12 | 5.66 | 0.14 | 2.5 | 5.7 | 5.2 - 6.1 | 12 | 16.26 | 0.56 | 3.4 | 16.2 | 15.1 - 17.4 |
| Abbott Cell-Dyn Ruby | 10 | 5.66 | 0.14 | 2.5 | 5.7 | 5.2 - 6.1 | 10 | 16.26 | 0.56 | 3.4 | 16.2 | 15.1 - 17.4 |
| | **Specimen CL-10** | | | | | | | | | | | |
| All Method | 13 | 5.68 | 0.17 | 3.0 | 5.7 | 5.2 - 6.1 | | | | | | |
| All Abbott Cell-Dyn Instruments | 12 | 5.63 | 0.16 | 2.8 | 5.6 | 5.2 - 6.1 | | | | | | |
| Abbott Cell-Dyn Ruby | 10 | 5.63 | 0.16 | 2.8 | 5.6 | 5.2 - 6.1 | | | | | | |

## HEMATOLOGY W/ 5-PART DIFFERENTIAL–HEMATOCRIT (percent)

| | Specimen CL-6 | | | | | | Specimen CL-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 14 | 38.49 | 1.71 | 4.5 | 37.8 | 36.1 - 40.8 | 14 | 53.92 | 1.88 | 3.5 | 53.5 | 50.6 - 57.2 |
| All Abbott Cell-Dyn Instruments | 12 | 37.63 | 0.55 | 1.5 | 37.8 | 35.3 - 39.9 | 12 | 53.09 | 1.03 | 1.9 | 53.1 | 49.9 - 56.3 |
| Abbott Cell-Dyn Ruby | 10 | 37.63 | 0.55 | 1.5 | 37.8 | 35.3 - 39.9 | 10 | 53.09 | 1.03 | 1.9 | 53.1 | 49.9 - 56.3 |
| | **Specimen CL-8** | | | | | | **Specimen CL-9** | | | | | |
| All Method | 14 | 16.33 | 0.97 | 5.9 | 16.0 | 15.3 - 17.4 | 14 | 46.85 | 2.55 | 5.4 | 45.8 | 44.0 - 49.7 |
| All Abbott Cell-Dyn Instruments | 12 | 15.81 | 0.23 | 1.4 | 15.8 | 14.8 - 16.8 | 12 | 45.50 | 0.77 | 1.7 | 45.4 | 42.7 - 48.3 |
| Abbott Cell-Dyn Ruby | 10 | 15.81 | 0.23 | 1.4 | 15.8 | 14.8 - 16.8 | 10 | 45.50 | 0.77 | 1.7 | 45.4 | 42.7 - 48.3 |
| | **Specimen CL-10** | | | | | | | | | | | |
| All Method | 14 | 16.45 | 1.07 | 6.5 | 16.0 | 15.4 - 17.5 | | | | | | |
| All Abbott Cell-Dyn Instruments | 12 | 15.94 | 0.17 | 1.1 | 15.9 | 14.9 - 16.9 | | | | | | |
| Abbott Cell-Dyn Ruby | 10 | 15.94 | 0.17 | 1.1 | 15.9 | 14.9 - 16.9 | | | | | | |

## HEMATOLOGY W/ 5-PART DIFFERENTIAL–PLATELET COUNT (x K/uL)

| | Specimen CL-6 | | | | | Specimen CL-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 14 | 263.0 | 8.7 | 3.3 | 264 | 197 - 329 | 13 | 129.3 | 30.9 | 23.9 | 143 | 96 - 162 |
| All Abbott Cell-Dyn Instruments | 12 | 264.4 | 9.1 | 3.5 | 267 | 198 - 331 | 12 | 148.0 | 15.2 | 10.3 | 148 | 111 - 185 |
| Abbott Cell-Dyn Ruby | 10 | 264.4 | 9.1 | 3.5 | 267 | 198 - 331 | 10 | 148.0 | 15.2 | 10.3 | 148 | 111 - 185 |

| | Specimen CL-8 | | | | | Specimen CL-9 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| All Method | 14 | 76.9 | 8.2 | 10.7 | 75 | 57 - 97 | 14 | 497.9 | 43.3 | 8.7 | 487 | 373 - 623 |
| All Abbott Cell-Dyn Instruments | 12 | 73.7 | 2.9 | 3.9 | 74 | 55 - 93 | 12 | 515.4 | 39.1 | 7.6 | 534 | 386 - 645 |
| Abbott Cell-Dyn Ruby | 10 | 73.7 | 2.9 | 3.9 | 74 | 55 - 93 | 10 | 515.4 | 39.1 | 7.6 | 534 | 386 - 645 |

| | Specimen CL-10 | | | | | |
|---|---|---|---|---|---|---|
| All Method | 14 | 78.2 | 13.2 | 16.8 | 75 | 58 - 98 |
| All Abbott Cell-Dyn Instruments | 12 | 71.9 | 5.7 | 8.0 | 72 | 53 - 90 |
| Abbott Cell-Dyn Ruby | 10 | 71.9 | 5.7 | 8.0 | 72 | 53 - 90 |

## HEMATOLOGY W/ 5-PART DIFFERENTIAL–NEUTROPHILS (percent)

| | Specimen CL-6 | | | | | Specimen CL-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 14 | 66.38 | 1.38 | 2.1 | 66.6 | 62.2 - 70.6 | 14 | 69.11 | 2.28 | 3.3 | 68.8 | 62.2 - 76.0 |
| All Abbott Cell-Dyn Instruments | 12 | 66.39 | 1.31 | 2.0 | 66.4 | 62.4 - 70.4 | 12 | 68.51 | 0.69 | 1.0 | 68.5 | 66.4 - 70.6 |
| Abbott Cell-Dyn Ruby | 10 | 66.39 | 1.31 | 2.0 | 66.4 | 62.4 - 70.4 | 10 | 68.51 | 0.69 | 1.0 | 68.5 | 66.4 - 70.6 |

| | Specimen CL-8 | | | | | Specimen CL-9 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| All Method | 14 | 45.79 | 2.00 | 4.4 | 45.8 | 39.7 - 51.8 | 14 | 73.97 | 1.34 | 1.8 | 74.2 | 69.9 - 78.0 |
| All Abbott Cell-Dyn Instruments | 12 | 45.36 | 0.88 | 1.9 | 45.7 | 42.7 - 48.0 | 12 | 73.81 | 0.72 | 1.0 | 74.1 | 71.6 - 76.0 |
| Abbott Cell-Dyn Ruby | 10 | 45.36 | 0.88 | 1.9 | 45.7 | 42.7 - 48.0 | 10 | 73.81 | 0.72 | 1.0 | 74.1 | 71.6 - 76.0 |

| | Specimen CL-10 | | | | | |
|---|---|---|---|---|---|---|
| All Method | 14 | 46.92 | 2.17 | 4.6 | 47.0 | 40.4 - 53.5 |
| All Abbott Cell-Dyn Instruments | 12 | 47.01 | 1.61 | 3.4 | 46.8 | 42.1 - 51.9 |
| Abbott Cell-Dyn Ruby | 10 | 47.01 | 1.61 | 3.4 | 46.8 | 42.1 - 51.9 |

## HEMATOLOGY W/ 5-PART DIFFERENTIAL–LYMPHOCYTES (percent)

| Instrument | Specimen CL-6 Labs | Mean | SD | CV | Median | Range | Specimen CL-7 Labs | Mean | SD | CV | Median | Range |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Method | 14 | 23.88 | 4.52 | 18.9 | 24.8 | 10.3 - 37.5 | 14 | 19.73 | 3.88 | 19.6 | 21.0 | 8.1 - 31.4 |
| All Abbott Cell-Dyn Instruments | 12 | 25.47 | 1.40 | 5.5 | 25.8 | 21.2 - 29.7 | 12 | 21.19 | 0.33 | 1.6 | 21.1 | 20.1 - 22.2 |
| Abbott Cell-Dyn Ruby | 10 | 25.47 | 1.40 | 5.5 | 25.8 | 21.2 - 29.7 | 10 | 21.19 | 0.33 | 1.6 | 21.1 | 20.1 - 22.2 |

| Instrument | Specimen CL-8 Labs | Mean | SD | CV | Median | Range | Specimen CL-9 Labs | Mean | SD | CV | Median | Range |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Method | 14 | 39.29 | 6.56 | 16.7 | 41.8 | 19.5 - 59.0 | 14 | 16.84 | 2.97 | 17.6 | 17.7 | 7.9 - 25.8 |
| All Abbott Cell-Dyn Instruments | 12 | 41.24 | 4.04 | 9.8 | 42.6 | 29.1 - 53.4 | 12 | 17.63 | 0.77 | 4.4 | 17.5 | 15.3 - 20.0 |
| Abbott Cell-Dyn Ruby | 10 | 41.24 | 4.04 | 9.8 | 42.6 | 29.1 - 53.4 | 10 | 17.63 | 0.77 | 4.4 | 17.5 | 15.3 - 20.0 |

| Instrument | Specimen CL-10 Labs | Mean | SD | CV | Median | Range |
|---|---|---|---|---|---|---|
| All Method | 14 | 39.32 | 6.18 | 15.7 | 40.9 | 20.7 - 57.9 |
| All Abbott Cell-Dyn Instruments | 12 | 41.97 | 1.48 | 3.5 | 42.3 | 37.5 - 46.5 |
| Abbott Cell-Dyn Ruby | 10 | 41.97 | 1.48 | 3.5 | 42.3 | 37.5 - 46.5 |

## HEMATOLOGY W/ 5-PART DIFFERENTIAL–MONOCYTES (percent)

| Instrument | Specimen CL-6 Labs | Mean | SD | CV | Median | Range | Specimen CL-7 Labs | Mean | SD | CV | Median | Range |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Method | 14 | 6.42 | 4.40 | 68.5 | 5.0 | 0.0 - 19.7 | 14 | 6.22 | 3.98 | 63.9 | 5.1 | 0.0 - 18.2 |
| All Abbott Cell-Dyn Instruments | 12 | 5.03 | 0.39 | 7.8 | 5.0 | 3.8 - 6.3 | 12 | 4.91 | 0.36 | 7.4 | 4.9 | 3.8 - 6.1 |
| Abbott Cell-Dyn Ruby | 10 | 5.03 | 0.39 | 7.8 | 5.0 | 3.8 - 6.3 | 10 | 4.91 | 0.36 | 7.4 | 4.9 | 3.8 - 6.1 |

| Instrument | Specimen CL-8 Labs | Mean | SD | CV | Median | Range | Specimen CL-9 Labs | Mean | SD | CV | Median | Range |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Method | 14 | 10.51 | 6.43 | 61.2 | 7.4 | 0.0 - 29.9 | 14 | 4.75 | 3.43 | 72.3 | 3.8 | 0.0 - 15.1 |
| All Abbott Cell-Dyn Instruments | 12 | 8.97 | 3.34 | 37.2 | 7.3 | 0.0 - 19.0 | 12 | 3.74 | 0.24 | 6.3 | 3.8 | 3.0 - 4.5 |
| Abbott Cell-Dyn Ruby | 10 | 8.97 | 3.34 | 37.2 | 7.3 | 0.0 - 19.0 | 10 | 3.74 | 0.24 | 6.3 | 3.8 | 3.0 - 4.5 |

| Instrument | Specimen CL-10 Labs | Mean | SD | CV | Median | Range |
|---|---|---|---|---|---|---|
| All Method | 14 | 9.46 | 6.72 | 71.1 | 7.5 | 0.0 - 29.7 |
| All Abbott Cell-Dyn Instruments | 12 | 6.96 | 0.71 | 10.2 | 7.2 | 4.8 - 9.1 |
| Abbott Cell-Dyn Ruby | 10 | 6.96 | 0.71 | 10.2 | 7.2 | 4.8 - 9.1 |

## HEMATOLOGY W/ 5-PART DIFFERENTIAL–EOSINOPHILS (percent)

| | Specimen CL-6 | | | | | | Specimen CL-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 14 | 2.95 | 0.84 | 28.6 | 2.9 | 0.4 - 5.5 | 14 | 4.68 | 2.09 | 44.6 | 5.3 | 0.0 - 11.0 |
| All Abbott Cell-Dyn Instruments | 12 | 2.89 | 0.13 | 4.7 | 2.9 | 2.4 - 3.3 | 12 | 5.23 | 0.23 | 4.4 | 5.3 | 4.5 - 6.0 |
| Abbott Cell-Dyn Ruby | 10 | 2.89 | 0.13 | 4.7 | 2.9 | 2.4 - 3.3 | 10 | 5.23 | 0.23 | 4.4 | 5.3 | 4.5 - 6.0 |

| | Specimen CL-8 | | | | | | Specimen CL-9 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Method | 14 | 3.91 | 1.47 | 37.6 | 4.2 | 0.0 - 8.4 | 14 | 4.14 | 1.15 | 27.8 | 4.6 | 0.6 - 7.6 |
| All Abbott Cell-Dyn Instruments | 12 | 4.17 | 0.29 | 7.0 | 4.2 | 3.2 - 5.1 | 12 | 4.57 | 0.29 | 6.4 | 4.6 | 3.6 - 5.5 |
| Abbott Cell-Dyn Ruby | 10 | 4.17 | 0.29 | 7.0 | 4.2 | 3.2 - 5.1 | 10 | 4.57 | 0.29 | 6.4 | 4.6 | 3.6 - 5.5 |

| | Specimen CL-10 | | | | | |
|---|---|---|---|---|---|---|
| All Method | 14 | 3.77 | 1.17 | 31.1 | 4.0 | 0.2 - 7.3 |
| All Abbott Cell-Dyn Instruments | 12 | 3.89 | 0.43 | 11.0 | 4.0 | 2.6 - 5.2 |
| Abbott Cell-Dyn Ruby | 10 | 3.89 | 0.43 | 11.0 | 4.0 | 2.6 - 5.2 |

## HEMATOLOGY W/ 5-PART DIFFERENTIAL–BASOPHILS (percent)

| | Specimen CL-6 | | | | | | Specimen CL-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 14 | 0.37 | 0.32 | 85.5 | 0.2 | 0.0 - 1.4 | 14 | 0.25 | 0.25 | 100.2 | 0.2 | 0.0 - 1.1 |
| All Abbott Cell-Dyn Instruments | 12 | 0.23 | 0.10 | 41.6 | 0.2 | 0.0 - 0.6 | 12 | 0.14 | 0.10 | 68.3 | 0.1 | 0.0 - 0.5 |
| Abbott Cell-Dyn Ruby | 10 | 0.23 | 0.10 | 41.6 | 0.2 | 0.0 - 0.6 | 10 | 0.14 | 0.10 | 68.3 | 0.1 | 0.0 - 0.5 |

| | Specimen CL-8 | | | | | | Specimen CL-9 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Method | 14 | 0.49 | 0.58 | 118.0 | 0.2 | 0.0 - 2.3 | 14 | 0.28 | 0.23 | 82.1 | 0.2 | 0.0 - 1.0 |
| All Abbott Cell-Dyn Instruments | 12 | 0.26 | 0.31 | 120.6 | 0.1 | 0.0 - 1.2 | 12 | 0.21 | 0.15 | 68.3 | 0.2 | 0.0 - 0.7 |
| Abbott Cell-Dyn Ruby | 10 | 0.26 | 0.31 | 120.6 | 0.1 | 0.0 - 1.2 | 10 | 0.21 | 0.15 | 68.3 | 0.2 | 0.0 - 0.7 |

| | Specimen CL-10 | | | | | |
|---|---|---|---|---|---|---|
| All Method | 14 | 0.42 | 0.81 | 192.4 | 0.0 | 0.0 - 2.9 |
| All Abbott Cell-Dyn Instruments | 12 | 0.01 | 0.04 | 264.6 | 0.0 | 0.0 - 0.2 |
| Abbott Cell-Dyn Ruby | 10 | 0.01 | 0.04 | 264.6 | 0.0 | 0.0 - 0.2 |

## SYSMEX HEMATOLOGY W/ AUTOMATED DIFFERENTIAL–WHITE BLOOD CELL COUNT (x $10^9$/L)

| | Specimen SYX-6 | | | | | | Specimen SYX-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 78 | 8.52 | 0.32 | 3.8 | 8.5 | 7.2 - 9.8 | 78 | 23.34 | 0.70 | 3.0 | 23.3 | 19.8 - 26.9 |
| All Sysmex Instruments | 76 | 8.52 | 0.33 | 3.8 | 8.5 | 7.2 - 9.8 | 76 | 23.34 | 0.70 | 3.0 | 23.3 | 19.8 - 26.9 |
| Sysmex KX-21N & K-800, 1000, 4500 | 25 | 8.26 | 0.19 | 2.3 | 8.3 | 7.0 - 9.6 | 26 | 22.81 | 0.60 | 2.6 | 22.8 | 19.3 - 26.3 |
| Sysmex pocH-100i | 10 | 8.26 | 0.13 | 1.5 | 8.3 | 7.0 - 9.5 | 10 | 23.15 | 0.43 | 1.9 | 23.2 | 19.6 - 26.7 |
| Sysmex XP-300 | 40 | 8.73 | 0.26 | 3.0 | 8.7 | 7.4 - 10.1 | 40 | 23.73 | 0.57 | 2.4 | 23.8 | 20.1 - 27.3 |
| | **Specimen SYX-8** | | | | | | **Specimen SYX-9** | | | | | |
| All Method | 77 | 2.94 | 0.12 | 4.1 | 2.9 | 2.5 - 3.4 | 78 | 20.80 | 0.75 | 3.6 | 20.7 | 17.6 - 24.0 |
| All Sysmex Instruments | 75 | 2.94 | 0.12 | 4.2 | 2.9 | 2.5 - 3.4 | 76 | 20.80 | 0.75 | 3.6 | 20.7 | 17.6 - 24.0 |
| Sysmex KX-21N & K-800, 1000, 4500 | 25 | 2.86 | 0.10 | 3.6 | 2.9 | 2.4 - 3.3 | 26 | 20.27 | 0.52 | 2.6 | 20.3 | 17.2 - 23.4 |
| Sysmex pocH-100i | 10 | 2.88 | 0.10 | 3.6 | 2.9 | 2.4 - 3.4 | 10 | 20.21 | 0.45 | 2.2 | 20.4 | 17.1 - 23.3 |
| Sysmex XP-300 | 40 | 3.01 | 0.10 | 3.3 | 3.0 | 2.5 - 3.5 | 40 | 21.29 | 0.59 | 2.7 | 21.4 | 18.0 - 24.5 |
| | **Specimen SYX-10** | | | | | | | | | | | |
| All Method | 76 | 2.93 | 0.10 | 3.5 | 2.9 | 2.4 - 3.4 | | | | | | |
| All Sysmex Instruments | 74 | 2.93 | 0.10 | 3.5 | 2.9 | 2.4 - 3.4 | | | | | | |
| Sysmex KX-21N & K-800, 1000, 4500 | 25 | 2.88 | 0.09 | 3.1 | 2.9 | 2.4 - 3.4 | | | | | | |
| Sysmex pocH-100i | 10 | 2.89 | 0.10 | 3.4 | 2.9 | 2.4 - 3.4 | | | | | | |
| Sysmex XP-300 | 39 | 2.96 | 0.10 | 3.3 | 2.9 | 2.5 - 3.5 | | | | | | |

## SYSMEX HEMATOLOGY W/ AUTOMATED DIFFERENTIAL–RED BLOOD CELL COUNT (x $10^{12}$/L)

| | Specimen SYX-6 | | | | | | Specimen SYX-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 78 | 4.150 | 0.067 | 1.6 | 4.15 | 3.90 - 4.40 | 77 | 6.019 | 0.079 | 1.3 | 6.01 | 5.65 - 6.39 |
| All Sysmex Instruments | 76 | 4.151 | 0.067 | 1.6 | 4.15 | 3.90 - 4.40 | 75 | 6.021 | 0.080 | 1.3 | 6.01 | 5.65 - 6.39 |
| Sysmex KX-21N & K-800, 1000, 4500 | 26 | 4.164 | 0.057 | 1.4 | 4.16 | 3.91 - 4.42 | 26 | 6.060 | 0.071 | 1.2 | 6.05 | 5.69 - 6.43 |
| Sysmex pocH-100i | 10 | 4.207 | 0.074 | 1.8 | 4.22 | 3.95 - 4.46 | 10 | 6.063 | 0.084 | 1.4 | 6.04 | 5.69 - 6.43 |
| Sysmex XP-300 | 40 | 4.129 | 0.062 | 1.5 | 4.12 | 3.88 - 4.38 | 39 | 5.984 | 0.067 | 1.1 | 6.00 | 5.62 - 6.35 |
| | **Specimen SYX-8** | | | | | | **Specimen SYX-9** | | | | | |
| All Method | v | 4.226 | 0.054 | 1.3 | 4.23 | 3.97 - 4.48 | 78 | 5.590 | 0.076 | 1.4 | 5.59 | 5.25 - 5.93 |
| All Sysmex Instruments | 78 | 4.226 | 0.054 | 1.3 | 4.23 | 3.97 - 4.48 | 76 | 5.591 | 0.076 | 1.4 | 5.59 | 5.25 - 5.93 |
| Sysmex KX-21N & K-800, 1000, 4500 | 27 | 4.226 | 0.047 | 1.1 | 4.22 | 3.97 - 4.48 | 26 | 5.628 | 0.067 | 1.2 | 5.63 | 5.29 - 5.97 |
| Sysmex pocH-100i | 11 | 4.303 | 0.050 | 1.2 | 4.30 | 4.04 - 4.57 | 10 | 5.633 | 0.072 | 1.3 | 5.62 | 5.29 - 5.98 |
| Sysmex XP-300 | 40 | 4.206 | 0.041 | 1.0 | 4.20 | 3.95 - 4.46 | 40 | 5.556 | 0.067 | 1.2 | 5.56 | 5.22 - 5.89 |
| | **Specimen SYX-10** | | | | | | | | | | | |
| All Method | 76 | 2.387 | 0.026 | 1.1 | 2.39 | 2.24 - 2.53 | | | | | | |
| All Sysmex Instruments | 74 | 2.386 | 0.026 | 1.1 | 2.39 | 2.24 - 2.53 | | | | | | |
| Sysmex KX-21N & K-800, 1000, 4500 | 26 | 2.398 | 0.037 | 1.6 | 2.39 | 2.25 - 2.55 | | | | | | |
| Sysmex pocH-100i | 10 | 2.386 | 0.031 | 1.3 | 2.38 | 2.24 - 2.53 | | | | | | |
| Sysmex XP-300 | 40 | 2.384 | 0.025 | 1.1 | 2.39 | 2.24 - 2.53 | | | | | | |

## SYSMEX HEMATOLOGY W/ AUTOMATED DIFFERENTIAL–HEMOGLOBIN (g/dL)

| | Specimen SYX-6 | | | | | | Specimen SYX-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 77 | 12.22 | 0.17 | 1.4 | 12.2 | 11.3 - 13.1 | 77 | 17.29 | 0.22 | 1.3 | 17.3 | 16.0 - 18.5 |
| All Sysmex Instruments | 75 | 12.22 | 0.17 | 1.4 | 12.2 | 11.3 - 13.1 | 75 | 17.29 | 0.22 | 1.3 | 17.3 | 16.0 - 18.5 |
| Sysmex KX-21N & K-800, 1000, 4500 | 26 | 12.20 | 0.16 | 1.3 | 12.2 | 11.3 - 13.1 | 26 | 17.24 | 0.20 | 1.2 | 17.2 | 16.0 - 18.5 |
| Sysmex pocH-100i | 10 | 12.39 | 0.18 | 1.4 | 12.4 | 11.5 - 13.3 | 10 | 17.50 | 0.18 | 1.0 | 17.5 | 16.2 - 18.8 |
| Sysmex XP-300 | 39 | 12.19 | 0.14 | 1.2 | 12.2 | 11.3 - 13.1 | 39 | 17.26 | 0.22 | 1.3 | 17.3 | 16.0 - 18.5 |

| | Specimen SYX-8 | | | | | | Specimen SYX-9 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Method | 77 | 6.13 | 0.12 | 1.9 | 6.1 | 5.7 - 6.6 | 77 | 18.07 | 0.22 | 1.2 | 18.1 | 16.8 - 19.4 |
| All Sysmex Instruments | 75 | 6.13 | 0.12 | 1.9 | 6.1 | 5.7 - 6.6 | 75 | 18.07 | 0.23 | 1.3 | 18.1 | 16.8 - 19.4 |
| Sysmex KX-21N & K-800, 1000, 4500 | 26 | 6.11 | 0.14 | 2.2 | 6.1 | 5.6 - 6.6 | 26 | 18.04 | 0.22 | 1.2 | 18.1 | 16.7 - 19.4 |
| Sysmex pocH-100i | 10 | 6.18 | 0.08 | 1.3 | 6.2 | 5.7 - 6.7 | 10 | 18.28 | 0.16 | 0.9 | 18.3 | 17.0 - 19.6 |
| Sysmex XP-300 | 39 | 6.14 | 0.11 | 1.8 | 6.1 | 5.7 - 6.6 | 39 | 18.04 | 0.22 | 1.2 | 18.1 | 16.7 - 19.4 |

| | Specimen SYX-10 | | | | | |
|---|---|---|---|---|---|---|
| All Method | 78 | 6.12 | 0.13 | 2.2 | 6.1 | 5.6 - 6.6 |
| All Sysmex Instruments | 76 | 6.12 | 0.13 | 2.2 | 6.1 | 5.6 - 6.6 |
| Sysmex KX-21N & K-800, 1000, 4500 | 26 | 6.11 | 0.15 | 2.4 | 6.1 | 5.6 - 6.6 |
| Sysmex pocH-100i | 10 | 6.19 | 0.09 | 1.4 | 6.2 | 5.7 - 6.7 |
| Sysmex XP-300 | 40 | 6.11 | 0.13 | 2.2 | 6.1 | 5.6 - 6.6 |

## SYSMEX HEMATOLOGY W/ AUTOMATED DIFFERENTIAL–HEMATOCRIT (percent)

| | Specimen SYX-6 | | | | | | Specimen SYX-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 75 | 32.55 | 0.82 | 2.5 | 32.4 | 30.6 - 34.6 | 81 | 49.78 | 1.16 | 2.3 | 49.5 | 46.7 - 52.8 |
| All Sysmex Instruments | 73 | 32.52 | 0.77 | 2.4 | 32.4 | 30.5 - 34.5 | 79 | 49.79 | 1.18 | 2.4 | 49.6 | 46.7 - 52.8 |
| Sysmex KX-21N & K-800, 1000, 4500 | 26 | 32.37 | 0.81 | 2.5 | 32.2 | 30.4 - 34.4 | 27 | 49.46 | 0.90 | 1.8 | 49.5 | 46.4 - 52.5 |
| Sysmex pocH-100i | 10 | 34.23 | 1.10 | 3.2 | 34.1 | 32.1 - 36.3 | 11 | 51.48 | 1.40 | 2.7 | 51.9 | 48.3 - 54.6 |
| Sysmex XP-300 | 40 | 32.42 | 0.54 | 1.7 | 32.5 | 30.4 - 34.4 | 40 | 49.46 | 0.69 | 1.4 | 49.4 | 46.4 - 52.5 |
| | **Specimen SYX-8** | | | | | | **Specimen SYX-9** | | | | | |
| All Method | 77 | 16.83 | 0.42 | 2.5 | 16.8 | 15.8 - 17.9 | 76 | 47.91 | 1.09 | 2.3 | 47.8 | 45.0 - 50.8 |
| All Sysmex Instruments | 76 | 16.83 | 0.42 | 2.5 | 16.8 | 15.8 - 17.9 | 75 | 47.91 | 1.10 | 2.3 | 47.8 | 45.0 - 50.8 |
| Sysmex KX-21N & K-800, 1000, 4500 | 26 | 16.69 | 0.40 | 2.4 | 16.7 | 15.6 - 17.7 | 26 | 47.80 | 1.20 | 2.5 | 47.8 | 44.9 - 50.7 |
| Sysmex pocH-100i | 10 | 17.53 | 0.38 | 2.2 | 17.5 | 16.4 - 18.6 | 10 | 49.73 | 1.13 | 2.3 | 49.7 | 46.7 - 52.8 |
| Sysmex XP-300 | 40 | 16.74 | 0.25 | 1.5 | 16.8 | 15.7 - 17.8 | 40 | 47.61 | 0.68 | 1.4 | 47.7 | 44.7 - 50.5 |
| | **Specimen SYX-10** | | | | | | | | | | | |
| All Method | 76 | 16.81 | 0.40 | 2.4 | 16.8 | 15.7 - 17.9 | | | | | | |
| All Sysmex Instruments | 75 | 16.80 | 0.40 | 2.4 | 16.8 | 15.7 - 17.9 | | | | | | |
| Sysmex KX-21N & K-800, 1000, 4500 | 26 | 16.66 | 0.42 | 2.5 | 16.6 | 15.6 - 17.7 | | | | | | |
| Sysmex pocH-100i | 10 | 17.45 | 0.46 | 2.6 | 17.5 | 16.4 - 18.5 | | | | | | |
| Sysmex XP-300 | 40 | 16.77 | 0.25 | 1.5 | 16.8 | 15.7 - 17.8 | | | | | | |

## SYSMEX HEMATOLOGY W/ AUTOMATED DIFFERENTIAL–PLATELET COUNT (x10$^9$/L)

| | Specimen SYX-6 | | | | | | Specimen SYX-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 78 | 191.3 | 9.3 | 4.9 | 191 | 143 - 240 | 77 | 490.5 | 24.1 | 4.9 | 490 | 367 - 614 |
| All Sysmex Instruments | 76 | 191.4 | 9.4 | 4.9 | 191 | 143 - 240 | 75 | 491.3 | 23.3 | 4.7 | 490 | 368 - 615 |
| Sysmex KX-21N & K-800, 1000, 4500 | 26 | 194.4 | 9.5 | 4.9 | 192 | 145 - 243 | 26 | 497.7 | 24.8 | 5.0 | 493 | 373 - 623 |
| Sysmex pocH-100i | 10 | 184.3 | 10.2 | 5.5 | 183 | 138 - 231 | 10 | 463.4 | 13.9 | 3.0 | 464 | 347 - 580 |
| Sysmex XP-300 | 39 | 191.8 | 7.3 | 3.8 | 191 | 143 - 240 | 39 | 494.2 | 19.1 | 3.9 | 498 | 370 - 618 |
| | **Specimen SYX-8** | | | | | | **Specimen SYX-9** | | | | | |
| All Method | 76 | 66.6 | 3.8 | 5.7 | 66 | 49 - 84 | 76 | 391.7 | 16.0 | 4.1 | 392 | 293 - 490 |
| All Sysmex Instruments | 74 | 66.4 | 3.7 | 5.6 | 66 | 49 - 84 | 75 | 391.8 | 16.1 | 4.1 | 392 | 293 - 490 |
| Sysmex KX-21N & K-800, 1000, 4500 | 26 | 67.5 | 4.4 | 6.5 | 68 | 50 - 85 | 26 | 394.1 | 14.1 | 3.6 | 393 | 295 - 493 |
| Sysmex pocH-100i | 10 | 66.3 | 4.0 | 6.0 | 64 | 49 - 83 | 10 | 373.3 | 10.6 | 2.8 | 377 | 279 - 467 |
| Sysmex XP-300 | 38 | 65.8 | 3.0 | 4.5 | 66 | 49 - 83 | 39 | 395.0 | 15.6 | 4.0 | 397 | 296 - 494 |
| | **Specimen SYX-10** | | | | | | | | | | | |
| All Method | 76 | 66.8 | 4.7 | 7.0 | 67 | 50 - 84 | | | | | | |
| All Sysmex Instruments | 74 | 66.7 | 4.7 | 7.0 | 67 | 49 - 84 | | | | | | |
| Sysmex KX-21N & K-800, 1000, 4500 | 26 | 67.6 | 4.9 | 7.2 | 67 | 50 - 85 | | | | | | |
| Sysmex pocH-100i | 10 | 70.5 | 14.8 | 21.0 | 65 | 52 - 89 | | | | | | |
| Sysmex XP-300 | 39 | 66.2 | 4.6 | 7.0 | 66 | 49 - 83 | | | | | | |

## SYSMEX HEMATOLOGY W/ AUTOMATED DIFFERENTIAL–LYMPH W/SCR (percent)

| | Specimen SYX-6 | | | | | | Specimen SYX-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 70 | 32.15 | 0.91 | 2.8 | 32.2 | 29.4 - 34.9 | 69 | 14.74 | 0.73 | 4.9 | 14.6 | 12.5 - 17.0 |
| All Sysmex Instruments | 68 | 32.13 | 0.91 | 2.8 | 32.1 | 29.3 - 34.9 | 67 | 14.71 | 0.71 | 4.8 | 14.5 | 12.5 - 16.9 |
| Sysmex KX-21N & K-800, 1000, 4500 | 24 | 32.17 | 0.90 | 2.8 | 32.1 | 29.4 - 34.9 | 24 | 14.73 | 0.89 | 6.1 | 14.5 | 12.0 - 17.5 |
| Sysmex XP-300 | 35 | 32.36 | 0.77 | 2.4 | 32.6 | 30.0 - 34.7 | 34 | 14.51 | 0.46 | 3.2 | 14.5 | 13.1 - 15.9 |
| | **Specimen SYX-8** | | | | | | **Specimen SYX-9** | | | | | |
| All Method | 68 | 12.70 | 1.20 | 9.4 | 12.6 | 9.1 - 16.4 | 69 | 62.32 | 0.80 | 1.3 | 62.3 | 59.9 - 64.8 |
| All Sysmex Instruments | 66 | 12.64 | 1.16 | 9.2 | 12.6 | 9.1 - 16.2 | 67 | 62.32 | 0.74 | 1.2 | 62.3 | 60.1 - 64.6 |
| Sysmex KX-21N & K-800, 1000, 4500 | 24 | 12.25 | 0.90 | 7.3 | 12.5 | 9.5 - 15.0 | 23 | 62.04 | 0.73 | 1.2 | 62.0 | 59.8 - 64.3 |
| Sysmex XP-300 | 34 | 13.07 | 1.20 | 9.2 | 12.9 | 9.4 - 16.7 | 35 | 62.49 | 0.67 | 1.1 | 62.6 | 60.4 - 64.6 |
| | **Specimen SYX-10** | | | | | | | | | | | |
| All Method | 69 | 12.76 | 1.44 | 11.3 | 12.9 | 8.4 - 17.1 | | | | | | |
| All Sysmex Instruments | 67 | 12.70 | 1.42 | 11.2 | 12.8 | 8.4 - 17.0 | | | | | | |
| Sysmex KX-21N & K-800, 1000, 4500 | 24 | 12.82 | 1.00 | 7.8 | 12.9 | 9.8 - 15.9 | | | | | | |
| Sysmex XP-300 | 34 | 13.14 | 1.31 | 10.0 | 13.1 | 9.2 - 17.1 | | | | | | |

## SYSMEX HEMATOLOGY W/ AUTOMATED DIFFERENTIAL–MONO/MIXED W/MCR (percent)

| | Specimen SYX-6 | | | | | | Specimen SYX-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 65 | 16.25 | 0.91 | 5.6 | 16.1 | 13.5 - 19.0 | 68 | 9.65 | 0.80 | 8.3 | 9.7 | 7.2 - 12.1 |
| All Sysmex Instruments | 64 | 16.27 | 0.90 | 5.6 | 16.2 | 13.5 - 19.0 | 67 | 9.64 | 0.80 | 8.3 | 9.7 | 7.2 - 12.1 |
| Sysmex KX-21N & K-800, 1000, 4500 | 24 | 16.35 | 0.80 | 4.9 | 16.4 | 13.9 - 18.8 | 24 | 9.92 | 0.75 | 7.5 | 9.8 | 7.6 - 12.2 |
| Sysmex XP-300 | 34 | 16.45 | 0.76 | 4.6 | 16.3 | 14.1 - 18.8 | 34 | 9.77 | 0.58 | 5.9 | 9.9 | 8.0 - 11.6 |
| | **Specimen SYX-8** | | | | | | **Specimen SYX-9** | | | | | |
| All Method | 68 | 18.95 | 1.79 | 9.4 | 19.0 | 13.5 - 24.4 | 67 | 13.93 | 0.92 | 6.6 | 13.9 | 11.1 - 16.8 |
| All Sysmex Instruments | 67 | 18.95 | 1.80 | 9.5 | 19.0 | 13.5 - 24.4 | 66 | 13.95 | 0.92 | 6.6 | 13.9 | 11.1 - 16.8 |
| Sysmex KX-21N & K-800, 1000, 4500 | 24 | 18.80 | 1.29 | 6.9 | 18.7 | 14.9 - 22.7 | 23 | 14.45 | 0.55 | 3.8 | 14.5 | 12.7 - 16.2 |
| Sysmex XP-300 | 34 | 19.37 | 1.90 | 9.8 | 19.5 | 13.6 - 25.1 | 34 | 13.93 | 0.87 | 6.3 | 13.8 | 11.3 - 16.6 |
| | **Specimen SYX-10** | | | | | | | | | | | |
| All Method | 68 | 15.09 | 0.83 | 5.5 | 15.1 | 12.5 - 17.6 | | | | | | |
| All Sysmex Instruments | 67 | 15.06 | 0.83 | 5.5 | 15.0 | 12.5 - 17.6 | | | | | | |
| Sysmex KX-21N & K-800, 1000, 4500 | 25 | 15.12 | 0.62 | 4.1 | 15.1 | 13.2 - 17.0 | | | | | | |
| Sysmex XP-300 | 34 | 15.19 | 0.90 | 5.9 | 15.1 | 12.4 - 17.9 | | | | | | |

## SYSMEX HEMATOLOGY W/ AUTOMATED DIFFERENTIAL–NEUT W/LCR (percent)

| | Specimen SYX-6 | | | | | | Specimen SYX-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 69 | 51.81 | 1.60 | 3.1 | 51.5 | 47.0 - 56.7 | 68 | 75.62 | 0.78 | 1.0 | 75.7 | 73.2 - 78.0 |
| All Sysmex Instruments | 68 | 51.80 | 1.61 | 3.1 | 51.5 | 46.9 - 56.7 | 67 | 75.64 | 0.77 | 1.0 | 75.7 | 73.3 - 78.0 |
| Sysmex KX-21N & K-800, 1000, 4500 | 24 | 51.48 | 0.90 | 1.8 | 51.5 | 48.7 - 54.2 | 24 | 75.35 | 0.95 | 1.3 | 75.6 | 72.5 - 78.2 |
| Sysmex XP-300 | 35 | 51.22 | 1.08 | 2.1 | 51.2 | 47.9 - 54.5 | 34 | 75.70 | 0.57 | 0.8 | 75.7 | 73.9 - 77.5 |
| | **Specimen SYX-8** | | | | | | **Specimen SYX-9** | | | | | |
| All Method | 68 | 68.36 | 1.77 | 2.6 | 68.3 | 63.0 - 73.7 | 69 | 23.75 | 1.00 | 4.2 | 23.7 | 20.7 - 26.8 |
| All Sysmex Instruments | 67 | 68.38 | 1.78 | 2.6 | 68.4 | 63.0 - 73.8 | 68 | 23.76 | 1.00 | 4.2 | 23.7 | 20.7 - 26.8 |
| Sysmex KX-21N & K-800, 1000, 4500 | 24 | 68.84 | 1.24 | 1.8 | 68.8 | 65.1 - 72.6 | 24 | 23.56 | 0.79 | 3.3 | 23.5 | 21.1 - 26.0 |
| Sysmex XP-300 | 34 | 67.46 | 1.44 | 2.1 | 67.6 | 63.1 - 71.8 | 34 | 23.52 | 0.78 | 3.3 | 23.7 | 21.1 - 25.9 |
| | **Specimen SYX-10** | | | | | | | | | | | |
| All Method | 69 | 55.25 | 1.19 | 2.2 | 55.1 | 51.6 - 58.9 | | | | | | |
| All Sysmex Instruments | 68 | 55.28 | 1.19 | 2.2 | 55.1 | 51.6 - 58.9 | | | | | | |
| Sysmex KX-21N & K-800, 1000, 4500 | 25 | 55.18 | 1.03 | 1.9 | 55.1 | 52.0 - 58.3 | | | | | | |
| Sysmex XP-300 | 34 | 54.87 | 0.93 | 1.7 | 55.0 | 52.0 - 57.7 | | | | | | |

## BASIC HEMATOLOGY W/ 3-PART DIFFERENTIAL–WHITE BLOOD CELL COUNT (x $10^9$/L)

| | Specimen HD-6 | | | | | | Specimen HD-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 432 | 7.79 | 0.27 | 3.5 | 7.8 | 6.6 - 9.0 | 435 | 5.18 | 0.28 | 5.4 | 5.2 | 4.3 - 6.0 |
| All Abbott Cell-Dyn Instruments | 107 | 7.87 | 0.37 | 4.7 | 7.8 | 6.6 - 9.1 | 108 | 5.31 | 0.27 | 5.0 | 5.3 | 4.5 - 6.2 |
| All ABX Instruments | 62 | 7.78 | 0.20 | 2.5 | 7.8 | 6.6 - 9.0 | 61 | 5.26 | 0.16 | 3.0 | 5.3 | 4.4 - 6.1 |
| All Boule (CDS) Instruments | 129 | 7.70 | 0.24 | 3.1 | 7.7 | 6.5 - 8.9 | 130 | 4.91 | 0.21 | 4.2 | 4.9 | 4.1 - 5.7 |
| All COULTER Instruments | 120 | 7.84 | 0.23 | 3.0 | 7.9 | 6.6 - 9.1 | 120 | 5.29 | 0.18 | 3.3 | 5.3 | 4.4 - 6.1 |
| Abbott Cell-Dyn 1700 | 13 | 8.45 | 0.22 | 2.6 | 8.3 | 7.1 - 9.8 | 14 | 5.56 | 0.38 | 6.8 | 5.6 | 4.7 - 6.4 |
| Abbott Cell-Dyn 1800 | 24 | 7.82 | 0.32 | 4.1 | 7.9 | 6.6 - 9.0 | 24 | 5.21 | 0.30 | 5.7 | 5.2 | 4.4 - 6.0 |
| Abbott Cell-Dyn Emerald | 70 | 7.77 | 0.30 | 3.8 | 7.7 | 6.6 - 9.0 | 70 | 5.29 | 0.21 | 3.9 | 5.3 | 4.4 - 6.1 |
| Boule (CDS) Medonic M series | 125 | 7.68 | 0.23 | 3.0 | 7.7 | 6.5 - 8.9 | 126 | 4.89 | 0.19 | 3.9 | 4.9 | 4.1 - 5.7 |
| COULTER AcT diff/diff 2 | 116 | 7.84 | 0.24 | 3.0 | 7.8 | 6.6 - 9.1 | 115 | 5.28 | 0.18 | 3.3 | 5.3 | 4.4 - 6.1 |
| Horiba ABX Micros/45/60 | 62 | 7.78 | 0.20 | 2.5 | 7.8 | 6.6 - 9.0 | 61 | 5.26 | 0.16 | 3.0 | 5.3 | 4.4 - 6.1 |

| | Specimen HD-8 | | | | | | Specimen HD-9 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Method | 433 | 1.94 | 0.14 | 7.0 | 1.9 | 1.6 - 2.3 | 432 | 20.42 | 0.74 | 3.6 | 20.5 | 17.3 - 23.5 |
| All Abbott Cell-Dyn Instruments | 108 | 2.00 | 0.13 | 6.5 | 2.0 | 1.7 - 2.4 | 108 | 19.95 | 1.01 | 5.1 | 19.7 | 16.9 - 23.0 |
| All ABX Instruments | 62 | 1.91 | 0.07 | 3.8 | 1.9 | 1.6 - 2.2 | 63 | 20.24 | 0.46 | 2.3 | 20.2 | 17.2 - 23.3 |
| All Boule (CDS) Instruments | 130 | 1.81 | 0.08 | 4.4 | 1.8 | 1.5 - 2.1 | 131 | 20.72 | 0.58 | 2.8 | 20.6 | 17.6 - 23.9 |
| All COULTER Instruments | 119 | 2.04 | 0.10 | 5.0 | 2.0 | 1.7 - 2.4 | 118 | 20.67 | 0.53 | 2.6 | 20.7 | 17.5 - 23.8 |
| Abbott Cell-Dyn 1700 | 14 | 2.14 | 0.09 | 4.3 | 2.1 | 1.8 - 2.5 | 13 | 21.28 | 1.40 | 6.6 | 21.5 | 18.0 - 24.5 |
| Abbott Cell-Dyn 1800 | 24 | 1.90 | 0.11 | 6.0 | 1.9 | 1.6 - 2.2 | 24 | 20.57 | 1.01 | 4.9 | 20.5 | 17.4 - 23.7 |
| Abbott Cell-Dyn Emerald | 70 | 2.01 | 0.11 | 5.6 | 2.0 | 1.7 - 2.4 | 71 | 19.52 | 0.60 | 3.1 | 19.4 | 16.5 - 22.5 |
| Boule (CDS) Medonic M series | 126 | 1.80 | 0.08 | 4.3 | 1.8 | 1.5 - 2.1 | 126 | 20.68 | 0.55 | 2.7 | 20.6 | 17.5 - 23.8 |
| COULTER AcT diff/diff 2 | 115 | 2.05 | 0.11 | 5.2 | 2.0 | 1.7 - 2.4 | 113 | 20.63 | 0.50 | 2.4 | 20.7 | 17.5 - 23.8 |
| Horiba ABX Micros/45/60 | 62 | 1.91 | 0.07 | 3.8 | 1.9 | 1.6 - 2.2 | 63 | 20.24 | 0.46 | 2.3 | 20.2 | 17.2 - 23.3 |

## BASIC HEMATOLOGY W/ 3-PART DIFFERENTIAL–WHITE BLOOD CELL COUNT (x $10^9$/L) cont'd

**Specimen HD-10**

| *Instrument* | *Labs* | *Mean* | *SD* | *CV* | *Median* | *Range* |
|---|---|---|---|---|---|---|
| All Method | 437 | 1.97 | 0.15 | 7.8 | 2.0 | 1.6 - 2.3 |
| All Abbott Cell-Dyn Instruments | 109 | 2.04 | 0.13 | 6.2 | 2.0 | 1.7 - 2.4 |
| All ABX Instruments | 63 | 1.93 | 0.08 | 4.1 | 1.9 | 1.6 - 2.3 |
| All Boule (CDS) Instruments | 129 | 1.82 | 0.07 | 4.1 | 1.8 | 1.5 - 2.1 |
| All COULTER Instruments | 119 | 2.11 | 0.11 | 5.2 | 2.1 | 1.7 - 2.5 |
| Abbott Cell-Dyn 1700 | 14 | 2.17 | 0.10 | 4.6 | 2.2 | 1.8 - 2.5 |
| Abbott Cell-Dyn 1800 | 24 | 1.98 | 0.12 | 6.2 | 2.0 | 1.6 - 2.3 |
| Abbott Cell-Dyn Emerald | 70 | 2.04 | 0.11 | 5.2 | 2.0 | 1.7 - 2.4 |
| Boule (CDS) Medonic M series | 126 | 1.82 | 0.07 | 3.9 | 1.8 | 1.5 - 2.1 |
| COULTER AcT diff/diff 2 | 114 | 2.11 | 0.11 | 5.1 | 2.1 | 1.7 - 2.5 |
| Horiba ABX Micros/45/60 | 63 | 1.93 | 0.08 | 4.1 | 1.9 | 1.6 - 2.3 |

## BASIC HEMATOLOGY W/ 3-PART DIFFERENTIAL–RED BLOOD CELL COUNT (x $10^{12}$/L)

| | **Specimen HD-6** | | | | | | **Specimen HD-7** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Instrument* | *Labs* | *Mean* | *SD* | *CV* | *Median* | *Range* | *Labs* | *Mean* | *SD* | *CV* | *Median* | *Range* |
| All Method | 434 | 4.636 | 0.108 | 2.3 | 4.64 | 4.35 - 4.92 | 432 | 6.191 | 0.150 | 2.4 | 6.20 | 5.81 - 6.57 |
| All Abbott Cell-Dyn Instruments | 106 | 4.582 | 0.122 | 2.7 | 4.58 | 4.30 - 4.86 | 105 | 6.054 | 0.166 | 2.7 | 6.04 | 5.69 - 6.42 |
| All ABX Instruments | 63 | 4.612 | 0.097 | 2.1 | 4.61 | 4.33 - 4.89 | 62 | 6.195 | 0.119 | 1.9 | 6.21 | 5.82 - 6.57 |
| All Boule (CDS) Instruments | 127 | 4.666 | 0.068 | 1.5 | 4.68 | 4.38 - 4.95 | 128 | 6.254 | 0.100 | 1.6 | 6.26 | 5.87 - 6.63 |
| All COULTER Instruments | 123 | 4.660 | 0.116 | 2.5 | 4.66 | 4.38 - 4.94 | 122 | 6.232 | 0.123 | 2.0 | 6.24 | 5.85 - 6.61 |
| Abbott Cell-Dyn 1700 | 13 | 4.682 | 0.099 | 2.1 | 4.70 | 4.40 - 4.97 | 12 | 6.253 | 0.162 | 2.6 | 6.27 | 5.87 - 6.63 |
| Abbott Cell-Dyn 1800 | 24 | 4.614 | 0.106 | 2.3 | 4.60 | 4.33 - 4.90 | 24 | 6.040 | 0.127 | 2.1 | 6.04 | 5.67 - 6.41 |
| Abbott Cell-Dyn Emerald | 70 | 4.547 | 0.129 | 2.8 | 4.56 | 4.27 - 4.82 | 69 | 6.025 | 0.156 | 2.6 | 6.02 | 5.66 - 6.39 |
| Boule (CDS) Medonic M series | 122 | 4.663 | 0.067 | 1.4 | 4.67 | 4.38 - 4.95 | 123 | 6.252 | 0.100 | 1.6 | 6.26 | 5.87 - 6.63 |
| COULTER AcT diff/diff 2 | 118 | 4.657 | 0.118 | 2.5 | 4.65 | 4.37 - 4.94 | 117 | 6.230 | 0.125 | 2.0 | 6.23 | 5.85 - 6.61 |
| Horiba ABX Micros/45/60 | 63 | 4.612 | 0.097 | 2.1 | 4.61 | 4.33 - 4.89 | 62 | 6.195 | 0.119 | 1.9 | 6.21 | 5.82 - 6.57 |

## BASIC HEMATOLOGY W/ 3-PART DIFFERENTIAL–RED BLOOD CELL COUNT (x $10^{12}$/L) cont'd

| | Specimen HD-8 | | | | | | Specimen HD-9 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 434 | 2.327 | 0.063 | 2.7 | 2.32 | 2.18 - 2.47 | 434 | 5.635 | 0.142 | 2.5 | 5.64 | 5.29 - 5.98 |
| All Abbott Cell-Dyn Instruments | 108 | 2.339 | 0.081 | 3.5 | 2.33 | 2.19 - 2.48 | 109 | 5.500 | 0.147 | 2.7 | 5.50 | 5.17 - 5.84 |
| All ABX Instruments | 62 | 2.285 | 0.045 | 2.0 | 2.29 | 2.14 - 2.43 | 63 | 5.617 | 0.099 | 1.8 | 5.63 | 5.27 - 5.96 |
| All Boule (CDS) Instruments | 131 | 2.303 | 0.043 | 1.9 | 2.30 | 2.16 - 2.45 | 129 | 5.738 | 0.096 | 1.7 | 5.74 | 5.39 - 6.09 |
| All COULTER Instruments | 121 | 2.358 | 0.057 | 2.4 | 2.36 | 2.21 - 2.50 | 121 | 5.646 | 0.133 | 2.3 | 5.63 | 5.30 - 5.99 |
| Abbott Cell-Dyn 1700 | 14 | 2.384 | 0.070 | 3.0 | 2.40 | 2.24 - 2.53 | 14 | 5.569 | 0.158 | 2.8 | 5.63 | 5.23 - 5.91 |
| Abbott Cell-Dyn 1800 | 23 | 2.416 | 0.063 | 2.6 | 2.43 | 2.27 - 2.57 | 23 | 5.490 | 0.133 | 2.4 | 5.47 | 5.16 - 5.82 |
| Abbott Cell-Dyn Emerald | 69 | 2.312 | 0.056 | 2.4 | 2.31 | 2.17 - 2.46 | 72 | 5.490 | 0.148 | 2.7 | 5.50 | 5.16 - 5.82 |
| Boule (CDS) Medonic M series | 126 | 2.301 | 0.042 | 1.8 | 2.30 | 2.16 - 2.44 | 124 | 5.739 | 0.097 | 1.7 | 5.74 | 5.39 - 6.09 |
| COULTER AcT diff/diff 2 | 116 | 2.360 | 0.058 | 2.4 | 2.36 | 2.21 - 2.51 | 116 | 5.645 | 0.135 | 2.4 | 5.63 | 5.30 - 5.99 |
| Horiba ABX Micros/45/60 | 62 | 2.285 | 0.045 | 2.0 | 2.29 | 2.14 - 2.43 | 63 | 5.617 | 0.099 | 1.8 | 5.63 | 5.27 - 5.96 |

| | Specimen HD-10 | | | | | |
|---|---|---|---|---|---|---|
| All Method | 432 | 2.326 | 0.062 | 2.7 | 2.32 | 2.18 - 2.47 |
| All Abbott Cell-Dyn Instruments | 109 | 2.341 | 0.083 | 3.5 | 2.33 | 2.20 - 2.49 |
| All ABX Instruments | 61 | 2.283 | 0.044 | 1.9 | 2.28 | 2.14 - 2.42 |
| All Boule (CDS) Instruments | 130 | 2.306 | 0.039 | 1.7 | 2.31 | 2.16 - 2.45 |
| All COULTER Instruments | 121 | 2.357 | 0.058 | 2.5 | 2.36 | 2.21 - 2.50 |
| Abbott Cell-Dyn 1700 | 14 | 2.397 | 0.053 | 2.2 | 2.40 | 2.25 - 2.55 |
| Abbott Cell-Dyn 1800 | 24 | 2.411 | 0.059 | 2.4 | 2.42 | 2.26 - 2.56 |
| Abbott Cell-Dyn Emerald | 69 | 2.299 | 0.059 | 2.6 | 2.30 | 2.16 - 2.44 |
| Boule (CDS) Medonic M series | 125 | 2.304 | 0.038 | 1.7 | 2.30 | 2.16 - 2.45 |
| COULTER AcT diff/diff 2 | 116 | 2.358 | 0.058 | 2.5 | 2.36 | 2.21 - 2.50 |
| Horiba ABX Micros/45/60 | 61 | 2.283 | 0.044 | 1.9 | 2.28 | 2.14 - 2.42 |

## BASIC HEMATOLOGY W/ 3-PART DIFFERENTIAL–HEMOGLOBIN (g/dL)

| | Specimen HD-6 | | | | | | Specimen HD-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 436 | 13.43 | 0.25 | 1.8 | 13.4 | 12.4 - 14.4 | 435 | 17.04 | 0.30 | 1.8 | 17.0 | 15.8 - 18.3 |
| All Abbott Cell-Dyn Instruments | 107 | 13.41 | 0.25 | 1.9 | 13.4 | 12.4 - 14.4 | 106 | 17.02 | 0.31 | 1.8 | 17.0 | 15.8 - 18.3 |
| All ABX Instruments | 63 | 13.50 | 0.21 | 1.6 | 13.5 | 12.5 - 14.5 | 62 | 17.11 | 0.26 | 1.5 | 17.1 | 15.9 - 18.4 |
| All Boule (CDS) Instruments | 128 | 13.48 | 0.20 | 1.4 | 13.5 | 12.5 - 14.5 | 127 | 17.04 | 0.25 | 1.5 | 17.0 | 15.8 - 18.3 |
| All COULTER Instruments | 120 | 13.33 | 0.26 | 2.0 | 13.3 | 12.3 - 14.3 | 120 | 17.03 | 0.32 | 1.9 | 17.0 | 15.8 - 18.3 |
| Abbott Cell-Dyn 1700 | 13 | 13.43 | 0.20 | 1.5 | 13.4 | 12.4 - 14.4 | 14 | 16.64 | 1.03 | 6.2 | 17.0 | 15.4 - 17.9 |
| Abbott Cell-Dyn 1800 | 24 | 13.58 | 0.29 | 2.2 | 13.6 | 12.6 - 14.6 | 24 | 17.30 | 0.36 | 2.1 | 17.2 | 16.0 - 18.6 |
| Abbott Cell-Dyn Emerald | 70 | 13.35 | 0.23 | 1.7 | 13.3 | 12.4 - 14.3 | 71 | 16.94 | 0.29 | 1.7 | 16.9 | 15.7 - 18.2 |
| Boule (CDS) Medonic M series | 123 | 13.48 | 0.20 | 1.5 | 13.5 | 12.5 - 14.5 | 122 | 17.04 | 0.25 | 1.5 | 17.0 | 15.8 - 18.3 |
| COULTER AcT diff/diff 2 | 115 | 13.32 | 0.27 | 2.0 | 13.3 | 12.3 - 14.3 | 115 | 17.03 | 0.32 | 1.9 | 17.0 | 15.8 - 18.3 |
| Horiba ABX Micros/45/60 | 63 | 13.50 | 0.21 | 1.6 | 13.5 | 12.5 - 14.5 | 62 | 17.11 | 0.26 | 1.5 | 17.1 | 15.9 - 18.4 |

| | Specimen HD-8 | | | | | | Specimen HD-9 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Method | 436 | 5.87 | 0.14 | 2.4 | 5.9 | 5.4 - 6.3 | 436 | 18.21 | 0.34 | 1.9 | 18.2 | 16.9 - 19.5 |
| All Abbott Cell-Dyn Instruments | 109 | 5.87 | 0.19 | 3.3 | 5.9 | 5.4 - 6.3 | 109 | 18.15 | 0.36 | 2.0 | 18.1 | 16.8 - 19.5 |
| All ABX Instruments | 61 | 5.88 | 0.11 | 1.8 | 5.9 | 5.4 - 6.3 | 63 | 18.17 | 0.25 | 1.4 | 18.2 | 16.8 - 19.5 |
| All Boule (CDS) Instruments | 129 | 5.90 | 0.09 | 1.6 | 5.9 | 5.4 - 6.4 | 130 | 18.37 | 0.30 | 1.7 | 18.4 | 17.0 - 19.7 |
| All COULTER Instruments | 120 | 5.83 | 0.14 | 2.4 | 5.8 | 5.4 - 6.3 | 119 | 18.09 | 0.34 | 1.9 | 18.1 | 16.8 - 19.4 |
| Abbott Cell-Dyn 1700 | 14 | 6.08 | 0.15 | 2.5 | 6.1 | 5.6 - 6.6 | 14 | 17.94 | 0.50 | 2.8 | 18.0 | 16.6 - 19.2 |
| Abbott Cell-Dyn 1800 | 24 | 6.05 | 0.18 | 3.0 | 6.0 | 5.6 - 6.5 | 24 | 18.48 | 0.45 | 2.4 | 18.4 | 17.1 - 19.8 |
| Abbott Cell-Dyn Emerald | 71 | 5.77 | 0.12 | 2.0 | 5.8 | 5.3 - 6.2 | 72 | 18.06 | 0.27 | 1.5 | 18.1 | 16.7 - 19.4 |
| Boule (CDS) Medonic M series | 124 | 5.90 | 0.09 | 1.6 | 5.9 | 5.4 - 6.4 | 125 | 18.39 | 0.30 | 1.6 | 18.4 | 17.1 - 19.7 |
| COULTER AcT diff/diff 2 | 115 | 5.83 | 0.14 | 2.4 | 5.8 | 5.4 - 6.3 | 114 | 18.09 | 0.34 | 1.9 | 18.1 | 16.8 - 19.4 |
| Horiba ABX Micros/45/60 | 61 | 5.88 | 0.11 | 1.8 | 5.9 | 5.4 - 6.3 | 63 | 18.17 | 0.25 | 1.4 | 18.2 | 16.8 - 19.5 |

## BASIC HEMATOLOGY W/ 3-PART DIFFERENTIAL–HEMOGLOBIN (g/dL) cont'd

**Specimen HD-10**

| *Instrument* | *Labs* | *Mean* | *SD* | *CV* | *Median* | *Range* |
|---|---|---|---|---|---|---|
| All Method | 436 | 5.88 | 0.14 | 2.4 | 5.9 | 5.4 - 6.3 |
| All Abbott Cell-Dyn Instruments | 108 | 5.89 | 0.18 | 3.1 | 5.8 | 5.4 - 6.3 |
| All ABX Instruments | 62 | 5.89 | 0.11 | 1.8 | 5.9 | 5.4 - 6.4 |
| All Boule (CDS) Instruments | 129 | 5.92 | 0.10 | 1.7 | 5.9 | 5.5 - 6.4 |
| All COULTER Instruments | 119 | 5.83 | 0.13 | 2.2 | 5.8 | 5.4 - 6.3 |
| Abbott Cell-Dyn 1700 | 14 | 6.14 | 0.15 | 2.5 | 6.2 | 5.7 - 6.6 |
| Abbott Cell-Dyn 1800 | 24 | 6.07 | 0.18 | 3.0 | 6.1 | 5.6 - 6.5 |
| Abbott Cell-Dyn Emerald | 71 | 5.79 | 0.09 | 1.6 | 5.8 | 5.3 - 6.2 |
| Boule (CDS) Medonic M series | 124 | 5.92 | 0.10 | 1.7 | 5.9 | 5.5 - 6.4 |
| COULTER AcT diff/diff 2 | 114 | 5.83 | 0.13 | 2.1 | 5.8 | 5.4 - 6.3 |
| Horiba ABX Micros/45/60 | 62 | 5.89 | 0.11 | 1.8 | 5.9 | 5.4 - 6.4 |

## BASIC HEMATOLOGY W/ 3-PART DIFFERENTIAL–HEMATOCRIT (percent)

| | **Specimen HD-6** | | | | | | **Specimen HD-7** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Instrument* | *Labs* | *Mean* | *SD* | *CV* | *Median* | *Range* | *Labs* | *Mean* | *SD* | *CV* | *Median* | *Range* |
| All Method | 437 | 38.18 | 1.56 | 4.1 | 38.1 | 35.8 - 40.5 | 431 | 50.06 | 1.52 | 3.0 | 50.0 | 47.0 - 53.1 |
| All Abbott Cell-Dyn Instruments | 107 | 39.77 | 1.27 | 3.2 | 39.9 | 37.3 - 42.2 | 104 | 51.41 | 1.49 | 2.9 | 51.4 | 48.3 - 54.5 |
| All ABX Instruments | 63 | 37.02 | 0.85 | 2.3 | 36.9 | 34.7 - 39.3 | 62 | 49.43 | 1.07 | 2.2 | 49.4 | 46.4 - 52.4 |
| All Boule (CDS) Instruments | 129 | 36.98 | 0.89 | 2.4 | 37.0 | 34.7 - 39.2 | 129 | 49.10 | 1.22 | 2.5 | 49.0 | 46.1 - 52.1 |
| All COULTER Instruments | 122 | 38.62 | 0.97 | 2.5 | 38.6 | 36.2 - 41.0 | 122 | 50.26 | 1.04 | 2.1 | 50.2 | 47.2 - 53.3 |
| Abbott Cell-Dyn 1700 | 12 | 38.89 | 0.85 | 2.2 | 38.9 | 36.5 - 41.3 | 11 | 50.93 | 1.42 | 2.8 | 51.1 | 47.8 - 54.0 |
| Abbott Cell-Dyn 1800 | 24 | 39.85 | 1.19 | 3.0 | 39.8 | 37.4 - 42.3 | 24 | 51.14 | 1.86 | 3.6 | 51.6 | 48.0 - 54.3 |
| Abbott Cell-Dyn Emerald | 70 | 39.92 | 1.29 | 3.2 | 40.2 | 37.5 - 42.4 | 69 | 51.52 | 1.51 | 2.9 | 51.6 | 48.4 - 54.7 |
| Boule (CDS) Medonic M series | 124 | 36.98 | 0.89 | 2.4 | 37.0 | 34.7 - 39.2 | 124 | 49.13 | 1.21 | 2.5 | 49.0 | 46.1 - 52.1 |
| COULTER AcT diff/diff 2 | 117 | 38.60 | 0.98 | 2.5 | 38.6 | 36.2 - 41.0 | 117 | 50.27 | 1.05 | 2.1 | 50.2 | 47.2 - 53.3 |
| Horiba ABX Micros/45/60 | 63 | 37.02 | 0.85 | 2.3 | 36.9 | 34.7 - 39.3 | 62 | 49.43 | 1.07 | 2.2 | 49.4 | 46.4 - 52.4 |

## BASIC HEMATOLOGY W/ 3-PART DIFFERENTIAL–HEMATOCRIT (percent) cont'd

| | Specimen HD-8 | | | | | | Specimen HD-9 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 437 | 16.79 | 0.96 | 5.7 | 16.7 | 15.7 - 17.8 | 436 | 51.53 | 1.64 | 3.2 | 51.4 | 48.4 - 54.7 |
| All Abbott Cell-Dyn Instruments | 108 | 17.84 | 0.60 | 3.4 | 17.9 | 16.7 - 19.0 | 107 | 52.82 | 1.61 | 3.0 | 52.9 | 49.6 - 56.0 |
| All ABX Instruments | 62 | 15.72 | 0.33 | 2.1 | 15.7 | 14.7 - 16.7 | 63 | 49.66 | 0.97 | 2.0 | 49.7 | 46.6 - 52.7 |
| All Boule (CDS) Instruments | 129 | 16.06 | 0.36 | 2.2 | 16.0 | 15.0 - 17.1 | 130 | 51.47 | 1.25 | 2.4 | 51.5 | 48.3 - 54.6 |
| All COULTER Instruments | 119 | 17.21 | 0.45 | 2.6 | 17.3 | 16.1 - 18.3 | 121 | 51.43 | 1.16 | 2.2 | 51.4 | 48.3 - 54.6 |
| Abbott Cell-Dyn 1700 | 13 | 17.12 | 0.58 | 3.4 | 17.1 | 16.0 - 18.2 | 13 | 51.06 | 1.70 | 3.3 | 51.5 | 47.9 - 54.2 |
| Abbott Cell-Dyn 1800 | 22 | 18.04 | 0.38 | 2.1 | 18.1 | 16.9 - 19.2 | 23 | 52.66 | 1.36 | 2.6 | 52.9 | 49.5 - 55.9 |
| Abbott Cell-Dyn Emerald | 71 | 17.94 | 0.55 | 3.0 | 18.0 | 16.8 - 19.1 | 71 | 53.15 | 1.62 | 3.0 | 53.3 | 49.9 - 56.4 |
| Boule (CDS) Medonic M series | 124 | 16.05 | 0.36 | 2.3 | 16.0 | 15.0 - 17.1 | 125 | 51.53 | 1.23 | 2.4 | 51.5 | 48.4 - 54.7 |
| COULTER AcT diff/diff 2 | 114 | 17.23 | 0.45 | 2.6 | 17.3 | 16.1 - 18.3 | 116 | 51.44 | 1.18 | 2.3 | 51.4 | 48.3 - 54.6 |
| Horiba ABX Micros/45/60 | 62 | 15.72 | 0.33 | 2.1 | 15.7 | 14.7 - 16.7 | 63 | 49.66 | 0.97 | 2.0 | 49.7 | 46.6 - 52.7 |

| | Specimen HD-10 | | | | | |
|---|---|---|---|---|---|---|
| All Method | 437 | 16.75 | 0.95 | 5.7 | 16.7 | 15.7 - 17.8 |
| All Abbott Cell-Dyn Instruments | 108 | 17.79 | 0.62 | 3.5 | 17.8 | 16.7 - 18.9 |
| All ABX Instruments | 61 | 15.69 | 0.34 | 2.2 | 15.6 | 14.7 - 16.7 |
| All Boule (CDS) Instruments | 130 | 15.99 | 0.35 | 2.2 | 16.0 | 15.0 - 17.0 |
| All COULTER Instruments | 121 | 17.15 | 0.43 | 2.5 | 17.2 | 16.1 - 18.2 |
| Abbott Cell-Dyn 1700 | 13 | 17.25 | 0.38 | 2.2 | 17.3 | 16.2 - 18.3 |
| Abbott Cell-Dyn 1800 | 24 | 17.86 | 0.66 | 3.7 | 17.9 | 16.7 - 19.0 |
| Abbott Cell-Dyn Emerald | 70 | 17.88 | 0.59 | 3.3 | 18.0 | 16.8 - 19.0 |
| Boule (CDS) Medonic M series | 125 | 15.99 | 0.35 | 2.2 | 16.0 | 15.0 - 17.0 |
| COULTER AcT diff/diff 2 | 116 | 17.17 | 0.42 | 2.4 | 17.2 | 16.1 - 18.3 |
| Horiba ABX Micros/45/60 | 61 | 15.69 | 0.34 | 2.2 | 15.6 | 14.7 - 16.7 |

## BASIC HEMATOLOGY W/ 3-PART DIFFERENTIAL–PLATELET COUNT (x $10^9$/L)

| | Specimen HD-6 | | | | | | Specimen HD-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 436 | 255.9 | 17.5 | 6.9 | 256 | 191 - 320 | 437 | 158.5 | 14.6 | 9.2 | 158 | 118 - 199 |
| All Abbott Cell-Dyn Instruments | 107 | 260.8 | 18.3 | 7.0 | 259 | 195 - 326 | 107 | 167.0 | 14.2 | 8.5 | 168 | 125 - 209 |
| All ABX Instruments | 61 | 258.5 | 10.9 | 4.2 | 259 | 193 - 324 | 62 | 156.3 | 10.0 | 6.4 | 156 | 117 - 196 |
| All Boule (CDS) Instruments | 130 | 240.8 | 13.7 | 5.7 | 240 | 180 - 302 | 130 | 146.5 | 10.4 | 7.1 | 146 | 109 - 184 |
| All COULTER Instruments | 122 | 265.6 | 11.4 | 4.3 | 266 | 199 - 333 | 123 | 164.7 | 12.1 | 7.4 | 164 | 123 - 206 |
| Abbott Cell-Dyn 1700 | 14 | 261.2 | 33.0 | 12.6 | 264 | 195 - 327 | 14 | 170.9 | 17.3 | 10.1 | 173 | 128 - 214 |
| Abbott Cell-Dyn 1800 | 24 | 258.0 | 14.6 | 5.6 | 259 | 193 - 323 | 24 | 171.9 | 14.4 | 8.4 | 171 | 128 - 215 |
| Abbott Cell-Dyn Emerald | 70 | 260.3 | 18.9 | 7.3 | 258 | 195 - 326 | 69 | 164.6 | 13.0 | 7.9 | 165 | 123 - 206 |
| Boule (CDS) Medonic M series | 125 | 240.2 | 13.4 | 5.6 | 239 | 180 - 301 | 126 | 145.8 | 9.8 | 6.7 | 146 | 109 - 183 |
| COULTER AcT diff/diff 2 | 118 | 265.5 | 11.5 | 4.3 | 266 | 199 - 332 | 118 | 165.0 | 12.1 | 7.3 | 164 | 123 - 207 |
| Horiba ABX Micros/45/60 | 61 | 258.5 | 10.9 | 4.2 | 259 | 193 - 324 | 62 | 156.3 | 10.0 | 6.4 | 156 | 117 - 196 |
| | **Specimen HD-8** | | | | | | **Specimen HD-9** | | | | | |
| All Method | 432 | 67.2 | 7.3 | 10.9 | 66 | 50 - 85 | 438 | 532.6 | 33.2 | 6.2 | 529 | 399 - 666 |
| All Abbott Cell-Dyn Instruments | 106 | 67.8 | 9.2 | 13.6 | 67 | 50 - 85 | 110 | 539.1 | 42.2 | 7.8 | 537 | 404 - 674 |
| All ABX Instruments | 62 | 71.9 | 6.2 | 8.6 | 72 | 53 - 90 | 63 | 527.8 | 21.4 | 4.1 | 527 | 395 - 660 |
| All Boule (CDS) Instruments | 129 | 62.8 | 4.5 | 7.2 | 63 | 47 - 79 | 131 | 510.8 | 23.7 | 4.6 | 512 | 383 - 639 |
| All COULTER Instruments | 120 | 68.6 | 5.5 | 8.0 | 68 | 51 - 86 | 120 | 554.4 | 21.4 | 3.9 | 554 | 415 - 693 |
| Abbott Cell-Dyn 1700 | 14 | 64.6 | 5.7 | 8.8 | 64 | 48 - 81 | 14 | 574.4 | 49.0 | 8.5 | 578 | 430 - 719 |
| Abbott Cell-Dyn 1800 | 24 | 64.6 | 5.7 | 8.8 | 65 | 48 - 81 | 24 | 563.3 | 35.6 | 6.3 | 569 | 422 - 705 |
| Abbott Cell-Dyn Emerald | 69 | 70.0 | 11.0 | 15.7 | 69 | 52 - 88 | 72 | 524.1 | 34.9 | 6.7 | 521 | 393 - 656 |
| Boule (CDS) Medonic M series | 124 | 62.6 | 4.4 | 7.1 | 62 | 46 - 79 | 126 | 509.7 | 23.2 | 4.5 | 510 | 382 - 638 |
| COULTER AcT diff/diff 2 | 115 | 68.8 | 5.4 | 7.9 | 68 | 51 - 86 | 116 | 553.9 | 21.5 | 3.9 | 553 | 415 - 693 |
| Horiba ABX Micros/45/60 | 62 | 71.9 | 6.2 | 8.6 | 72 | 53 - 90 | 63 | 527.8 | 21.4 | 4.1 | 527 | 395 - 660 |

## BASIC HEMATOLOGY W/ 3-PART DIFFERENTIAL–PLATELET COUNT (x $10^9$/L) cont'd

**Specimen HD-10**

| *Instrument* | *Labs* | *Mean* | *SD* | *CV* | *Median* | *Range* |
|---|---|---|---|---|---|---|
| All Method | 430 | 68.5 | 8.0 | 11.7 | 68 | 51 - 86 |
| All Abbott Cell-Dyn Instruments | 106 | 71.3 | 12.2 | 17.1 | 70 | 53 - 90 |
| All ABX Instruments | 63 | 73.5 | 5.0 | 6.8 | 74 | 55 - 92 |
| All Boule (CDS) Instruments | 129 | 63.4 | 5.0 | 7.9 | 63 | 47 - 80 |
| All COULTER Instruments | 120 | 69.8 | 5.8 | 8.3 | 70 | 52 - 88 |
| Abbott Cell-Dyn 1700 | 14 | 65.6 | 4.6 | 6.9 | 64 | 49 - 82 |
| Abbott Cell-Dyn 1800 | 24 | 66.8 | 6.2 | 9.3 | 67 | 50 - 84 |
| Abbott Cell-Dyn Emerald | 69 | 74.7 | 14.9 | 19.9 | 72 | 56 - 94 |
| Boule (CDS) Medonic M series | 123 | 63.1 | 4.7 | 7.5 | 63 | 47 - 79 |
| COULTER AcT diff/diff 2 | 116 | 70.0 | 6.0 | 8.6 | 70 | 52 - 88 |
| Horiba ABX Micros/45/60 | 63 | 73.5 | 5.0 | 6.8 | 74 | 55 - 92 |

## BASIC HEMATOLOGY W/ 3-PART DIFFERENTIAL–LYMPHOCYTES (percent)

| | Specimen HD-6 | | | | | | Specimen HD-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Instrument* | *Labs* | *Mean* | *SD* | *CV* | *Median* | *Range* | *Labs* | *Mean* | *SD* | *CV* | *Median* | *Range* |
| All Method | 425 | 29.37 | 2.90 | 9.9 | 30.4 | 20.6 - 38.1 | 428 | 56.23 | 6.55 | 11.7 | 57.6 | 36.5 - 75.9 |
| All Abbott Cell-Dyn Instruments | 103 | 27.76 | 2.23 | 8.0 | 28.3 | 21.0 - 34.5 | 106 | 52.23 | 3.05 | 5.8 | 53.0 | 43.0 - 61.4 |
| All ABX Instruments | 60 | 24.57 | 2.68 | 10.9 | 24.4 | 16.5 - 32.6 | 60 | 45.33 | 4.13 | 9.1 | 44.6 | 32.9 - 57.8 |
| All Boule (CDS) Instruments | 124 | 30.94 | 0.88 | 2.8 | 30.9 | 28.3 - 33.6 | 122 | 63.19 | 1.28 | 2.0 | 63.1 | 59.3 - 67.1 |
| All COULTER Instruments | 115 | 31.22 | 0.90 | 2.9 | 31.3 | 28.5 - 34.0 | 115 | 58.19 | 1.05 | 1.8 | 58.1 | 55.0 - 61.4 |
| Abbott Cell-Dyn 1700 | 15 | 27.98 | 1.37 | 4.9 | 28.5 | 23.8 - 32.1 | 15 | 53.07 | 2.60 | 4.9 | 53.2 | 45.2 - 60.9 |
| Abbott Cell-Dyn 1800 | 23 | 24.27 | 1.33 | 5.5 | 23.9 | 20.2 - 28.3 | 23 | 47.54 | 1.54 | 3.2 | 47.3 | 42.9 - 52.2 |
| Abbott Cell-Dyn Emerald | 64 | 28.93 | 1.06 | 3.6 | 28.9 | 25.7 - 32.1 | 66 | 53.71 | 1.49 | 2.8 | 53.8 | 49.2 - 58.2 |
| Boule (CDS) Medonic M series | 124 | 30.94 | 0.88 | 2.8 | 30.9 | 28.3 - 33.6 | 122 | 63.19 | 1.28 | 2.0 | 63.1 | 59.3 - 67.1 |
| COULTER AcT diff/diff 2 | 113 | 31.21 | 0.89 | 2.9 | 31.3 | 28.5 - 33.9 | 113 | 58.17 | 1.03 | 1.8 | 58.1 | 55.0 - 61.3 |
| Horiba ABX Micros/45/60 | 60 | 24.57 | 2.68 | 10.9 | 24.4 | 16.5 - 32.6 | 60 | 45.33 | 4.13 | 9.1 | 44.6 | 32.9 - 57.8 |

## BASIC HEMATOLOGY W/ 3-PART DIFFERENTIAL–LYMPHOCYTES (percent) cont'd

| | Specimen HD-8 | | | | | | Specimen HD-9 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 424 | 56.99 | 6.73 | 11.8 | 59.8 | 36.7 - 77.2 | 422 | 13.54 | 1.19 | 8.8 | 13.7 | 9.9 - 17.2 |
| All Abbott Cell-Dyn Instruments | 107 | 53.29 | 3.48 | 6.5 | 53.9 | 42.8 - 63.8 | 103 | 13.38 | 1.63 | 12.2 | 13.7 | 8.4 - 18.3 |
| All ABX Instruments | 60 | 44.90 | 5.27 | 11.7 | 43.9 | 29.0 - 60.8 | 58 | 12.27 | 1.10 | 9.0 | 12.3 | 8.9 - 15.6 |
| All Boule (CDS) Instruments | 121 | 61.67 | 1.65 | 2.7 | 61.6 | 56.7 - 66.7 | 122 | 13.63 | 0.51 | 3.7 | 13.5 | 12.1 - 15.2 |
| All COULTER Instruments | 112 | 61.47 | 1.39 | 2.3 | 61.4 | 57.2 - 65.7 | 116 | 14.06 | 0.50 | 3.6 | 14.1 | 12.5 - 15.6 |
| Abbott Cell-Dyn 1700 | 14 | 54.19 | 1.28 | 2.4 | 54.4 | 50.3 - 58.1 | 15 | 12.65 | 0.58 | 4.5 | 12.5 | 10.9 - 14.4 |
| Abbott Cell-Dyn 1800 | 24 | 48.56 | 2.81 | 5.8 | 48.2 | 40.1 - 57.0 | 23 | 11.00 | 0.52 | 4.7 | 10.8 | 9.4 - 12.6 |
| Abbott Cell-Dyn Emerald | 68 | 54.66 | 2.26 | 4.1 | 54.7 | 47.8 - 61.5 | 64 | 14.40 | 0.95 | 6.6 | 14.2 | 11.5 - 17.3 |
| Boule (CDS) Medonic M series | 121 | 61.67 | 1.65 | 2.7 | 61.6 | 56.7 - 66.7 | 122 | 13.63 | 0.51 | 3.7 | 13.5 | 12.1 - 15.2 |
| COULTER AcT diff/diff 2 | 110 | 61.47 | 1.38 | 2.2 | 61.4 | 57.3 - 65.6 | 114 | 14.07 | 0.50 | 3.5 | 14.1 | 12.5 - 15.6 |
| Horiba ABX Micros/45/60 | 60 | 44.90 | 5.27 | 11.7 | 43.9 | 29.0 - 60.8 | 58 | 12.27 | 1.10 | 9.0 | 12.3 | 8.9 - 15.6 |

| | Specimen HD-10 | | | | | |
|---|---|---|---|---|---|---|
| All Method | 424 | 56.44 | 6.48 | 11.5 | 58.8 | 36.9 - 75.9 |
| All Abbott Cell-Dyn Instruments | 104 | 52.80 | 3.37 | 6.4 | 53.4 | 42.7 - 62.9 |
| All ABX Instruments | 60 | 44.99 | 4.98 | 11.1 | 44.2 | 30.0 - 60.0 |
| All Boule (CDS) Instruments | 123 | 60.71 | 2.09 | 3.4 | 60.9 | 54.4 - 67.0 |
| All COULTER Instruments | 113 | 61.03 | 1.59 | 2.6 | 61.0 | 56.2 - 65.9 |
| Abbott Cell-Dyn 1700 | 14 | 54.19 | 2.93 | 5.4 | 53.3 | 45.3 - 63.0 |
| Abbott Cell-Dyn 1800 | 24 | 47.85 | 2.59 | 5.4 | 48.0 | 40.0 - 55.7 |
| Abbott Cell-Dyn Emerald | 67 | 54.12 | 2.09 | 3.9 | 54.2 | 47.8 - 60.4 |
| Boule (CDS) Medonic M series | 123 | 60.71 | 2.09 | 3.4 | 60.9 | 54.4 - 67.0 |
| COULTER AcT diff/diff 2 | 111 | 60.99 | 1.58 | 2.6 | 61.0 | 56.2 - 65.8 |
| Horiba ABX Micros/45/60 | 60 | 44.99 | 4.98 | 11.1 | 44.2 | 30.0 - 60.0 |

## BASIC HEMATOLOGY W/ 3-PART DIFFERENTIAL–MONO/MID/MIXED/MCR (percent)

| | Specimen HD-6 | | | | | | Specimen HD-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 425 | 7.09 | 2.10 | 29.6 | 6.7 | 0.7 - 13.4 | 426 | 12.48 | 3.52 | 28.2 | 11.6 | 1.9 - 23.1 |
| All Abbott Cell-Dyn Instruments | 107 | 7.11 | 2.58 | 36.3 | 5.8 | 0.0 - 14.9 | 107 | 12.77 | 4.80 | 37.6 | 10.6 | 0.0 - 27.2 |
| All ABX Instruments | 60 | 9.48 | 1.67 | 17.7 | 9.5 | 4.4 - 14.5 | 60 | 17.07 | 2.21 | 12.9 | 17.2 | 10.4 - 23.7 |
| All Boule (CDS) Instruments | 121 | 7.55 | 1.17 | 15.4 | 7.5 | 4.0 - 11.1 | 122 | 10.89 | 1.66 | 15.2 | 11.0 | 5.9 - 15.9 |
| All COULTER Instruments | 115 | 5.45 | 0.78 | 14.4 | 5.5 | 3.1 - 7.9 | 113 | 11.71 | 1.53 | 13.1 | 11.7 | 7.1 - 16.4 |
| Abbott Cell-Dyn 1700 | 15 | 8.57 | 0.67 | 7.8 | 8.7 | 6.5 - 10.6 | 15 | 16.34 | 1.16 | 7.1 | 16.3 | 12.8 - 19.9 |
| Abbott Cell-Dyn 1800 | 23 | 11.07 | 0.81 | 7.4 | 11.0 | 8.6 - 13.6 | 23 | 20.28 | 0.95 | 4.7 | 20.2 | 17.4 - 23.2 |
| Abbott Cell-Dyn Emerald | 66 | 5.31 | 0.62 | 11.6 | 5.3 | 3.4 - 7.2 | 64 | 9.55 | 0.90 | 9.5 | 9.4 | 6.8 - 12.3 |
| Boule (CDS) Medonic M series | 121 | 7.55 | 1.17 | 15.4 | 7.5 | 4.0 - 11.1 | 122 | 10.89 | 1.66 | 15.2 | 11.0 | 5.9 - 15.9 |
| COULTER AcT diff/diff 2 | 113 | 5.48 | 0.77 | 14.1 | 5.5 | 3.1 - 7.8 | 112 | 11.71 | 1.54 | 13.1 | 11.8 | 7.0 - 16.4 |
| Horiba ABX Micros/45/60 | 60 | 9.48 | 1.67 | 17.7 | 9.5 | 4.4 - 14.5 | 60 | 17.07 | 2.21 | 12.9 | 17.2 | 10.4 - 23.7 |

| | Specimen HD-8 | | | | | | Specimen HD-9 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Method | 421 | 10.88 | 5.28 | 48.5 | 9.2 | 0.0 - 26.8 | 424 | 4.18 | 1.48 | 35.4 | 3.8 | 0.0 - 8.7 |
| All Abbott Cell-Dyn Instruments | 107 | 12.69 | 3.56 | 28.0 | 11.6 | 2.0 - 23.4 | 107 | 3.45 | 1.35 | 39.2 | 2.7 | 0.0 - 7.6 |
| All ABX Instruments | 60 | 21.09 | 3.74 | 17.7 | 21.7 | 9.8 - 32.4 | 60 | 3.86 | 0.51 | 13.2 | 3.8 | 2.3 - 5.4 |
| All Boule (CDS) Instruments | 120 | 8.41 | 1.70 | 20.2 | 8.5 | 3.3 - 13.6 | 119 | 5.86 | 0.72 | 12.4 | 5.9 | 3.6 - 8.1 |
| All COULTER Instruments | 111 | 6.71 | 1.16 | 17.3 | 6.6 | 3.2 - 10.2 | 114 | 3.24 | 0.46 | 14.1 | 3.2 | 1.8 - 4.7 |
| Abbott Cell-Dyn 1700 | 15 | 12.32 | 1.78 | 14.5 | 12.7 | 6.9 - 17.7 | 15 | 4.50 | 0.44 | 9.9 | 4.4 | 3.1 - 5.9 |
| Abbott Cell-Dyn 1800 | 23 | 18.36 | 1.55 | 8.5 | 18.0 | 13.6 - 23.1 | 23 | 5.58 | 0.33 | 5.9 | 5.5 | 4.5 - 6.6 |
| Abbott Cell-Dyn Emerald | 66 | 10.87 | 1.74 | 16.0 | 10.8 | 5.6 - 16.1 | 67 | 2.50 | 0.30 | 12.1 | 2.4 | 1.5 - 3.5 |
| Boule (CDS) Medonic M series | 120 | 8.41 | 1.70 | 20.2 | 8.5 | 3.3 - 13.6 | 119 | 5.86 | 0.72 | 12.4 | 5.9 | 3.6 - 8.1 |
| COULTER AcT diff/diff 2 | 109 | 6.72 | 1.17 | 17.4 | 6.7 | 3.2 - 10.3 | 112 | 3.25 | 0.46 | 14.1 | 3.2 | 1.8 - 4.7 |
| Horiba ABX Micros/45/60 | 60 | 21.09 | 3.74 | 17.7 | 21.7 | 9.8 - 32.4 | 60 | 3.86 | 0.51 | 13.2 | 3.8 | 2.3 - 5.4 |

## BASIC HEMATOLOGY W/ 3-PART DIFFERENTIAL–MONO/MID/MIXED/MCR (percent) cont'd

**Specimen HD-10**

| *Instrument* | *Labs* | *Mean* | *SD* | *CV* | *Median* | *Range* |
|---|---|---|---|---|---|---|
| All Method | 423 | 10.92 | 5.05 | 46.3 | 9.3 | 0.0 - 26.1 |
| All Abbott Cell-Dyn Instruments | 107 | 12.60 | 3.17 | 25.1 | 11.8 | 3.0 - 22.1 |
| All ABX Instruments | 60 | 20.88 | 3.75 | 18.0 | 20.9 | 9.6 - 32.2 |
| All Boule (CDS) Instruments | 121 | 8.59 | 1.82 | 21.2 | 8.9 | 3.1 - 14.1 |
| All COULTER Instruments | 113 | 7.01 | 1.34 | 19.1 | 7.0 | 2.9 - 11.1 |
| Abbott Cell-Dyn 1700 | 15 | 12.07 | 1.77 | 14.7 | 12.3 | 6.7 - 17.4 |
| Abbott Cell-Dyn 1800 | 23 | 17.55 | 1.48 | 8.4 | 17.8 | 13.1 - 22.0 |
| Abbott Cell-Dyn Emerald | 68 | 11.07 | 1.89 | 17.1 | 10.9 | 5.3 - 16.8 |
| Boule (CDS) Medonic M series | 121 | 8.59 | 1.82 | 21.2 | 8.9 | 3.1 - 14.1 |
| COULTER AcT diff/diff 2 | 111 | 7.04 | 1.33 | 18.9 | 7.0 | 3.0 - 11.1 |
| Horiba ABX Micros/45/60 | 60 | 20.88 | 3.75 | 18.0 | 20.9 | 9.6 - 32.2 |

## BASIC HEMATOLOGY W/ 3-PART DIFFERENTIAL–GRANULOCYTES/NEUT (percent)

| | **Specimen HD-6** | | | | | | **Specimen HD-7** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Instrument* | *Labs* | *Mean* | *SD* | *CV* | *Median* | *Range* | *Labs* | *Mean* | *SD* | *CV* | *Median* | *Range* |
| All Method | 421 | 63.63 | 2.24 | 3.5 | 63.6 | 56.9 - 70.4 | 425 | 31.31 | 4.86 | 15.5 | 30.8 | 16.7 - 45.9 |
| All Abbott Cell-Dyn Instruments | 103 | 65.13 | 1.50 | 2.3 | 65.3 | 60.6 - 69.7 | 106 | 34.86 | 2.90 | 8.3 | 36.2 | 26.1 - 43.6 |
| All ABX Instruments | 58 | 66.16 | 1.19 | 1.8 | 66.2 | 62.5 - 69.8 | 60 | 37.66 | 2.32 | 6.2 | 38.3 | 30.6 - 44.7 |
| All Boule (CDS) Instruments | 122 | 61.46 | 1.40 | 2.3 | 61.4 | 57.2 - 65.7 | 122 | 26.04 | 2.14 | 8.2 | 25.9 | 19.6 - 32.5 |
| All COULTER Instruments | 116 | 63.36 | 1.12 | 1.8 | 63.3 | 59.9 - 66.8 | 116 | 30.27 | 1.54 | 5.1 | 30.3 | 25.6 - 34.9 |
| Abbott Cell-Dyn 1700 | 15 | 63.45 | 1.19 | 1.9 | 63.3 | 59.8 - 67.1 | 15 | 30.61 | 1.88 | 6.2 | 30.5 | 24.9 - 36.3 |
| Abbott Cell-Dyn 1800 | 24 | 64.70 | 1.30 | 2.0 | 65.1 | 60.8 - 68.6 | 24 | 32.35 | 1.33 | 4.1 | 32.4 | 28.3 - 36.4 |
| Abbott Cell-Dyn Emerald | 64 | 65.68 | 1.29 | 2.0 | 65.9 | 61.8 - 69.6 | 65 | 36.87 | 1.16 | 3.1 | 36.8 | 33.4 - 40.4 |
| Boule (CDS) Medonic M series | 122 | 61.46 | 1.40 | 2.3 | 61.4 | 57.2 - 65.7 | 122 | 26.04 | 2.14 | 8.2 | 25.9 | 19.6 - 32.5 |
| COULTER AcT diff/diff 2 | 114 | 63.35 | 1.11 | 1.8 | 63.3 | 60.0 - 66.7 | 115 | 30.29 | 1.54 | 5.1 | 30.3 | 25.6 - 34.9 |
| Horiba ABX Micros/45/60 | 58 | 66.16 | 1.19 | 1.8 | 66.2 | 62.5 - 69.8 | 60 | 37.66 | 2.32 | 6.2 | 38.3 | 30.6 - 44.7 |

## BASIC HEMATOLOGY W/ 3-PART DIFFERENTIAL–GRANULOCYTES/NEUT (percent) cont'd

| | Specimen HD-8 | | | | | | Specimen HD-9 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 423 | 32.17 | 2.61 | 8.1 | 32.2 | 24.3 - 40.1 | 418 | 82.30 | 1.65 | 2.0 | 82.7 | 77.3 - 87.3 |
| All Abbott Cell-Dyn Instruments | 107 | 33.98 | 1.74 | 5.1 | 34.1 | 28.7 - 39.2 | 102 | 83.18 | 0.92 | 1.1 | 83.5 | 80.4 - 86.0 |
| All ABX Instruments | 60 | 34.06 | 1.99 | 5.8 | 34.6 | 28.0 - 40.1 | 58 | 83.89 | 0.90 | 1.1 | 84.0 | 81.1 - 86.6 |
| All Boule (CDS) Instruments | 123 | 29.97 | 2.51 | 8.4 | 29.5 | 22.4 - 37.5 | 122 | 80.50 | 1.09 | 1.4 | 80.5 | 77.2 - 83.8 |
| All COULTER Instruments | 114 | 31.80 | 1.31 | 4.1 | 31.7 | 27.8 - 35.8 | 117 | 82.72 | 0.71 | 0.9 | 82.7 | 80.5 - 84.9 |
| Abbott Cell-Dyn 1700 | 15 | 32.98 | 1.42 | 4.3 | 32.9 | 28.7 - 37.3 | 15 | 82.89 | 0.82 | 1.0 | 83.1 | 80.4 - 85.4 |
| Abbott Cell-Dyn 1800 | 24 | 33.43 | 1.69 | 5.1 | 32.9 | 28.3 - 38.6 | 24 | 83.41 | 0.65 | 0.8 | 83.7 | 81.4 - 85.4 |
| Abbott Cell-Dyn Emerald | 68 | 34.40 | 1.69 | 4.9 | 34.4 | 29.3 - 39.5 | 64 | 83.11 | 1.10 | 1.3 | 83.4 | 79.8 - 86.5 |
| Boule (CDS) Medonic M series | 123 | 29.97 | 2.51 | 8.4 | 29.5 | 22.4 - 37.5 | 122 | 80.50 | 1.09 | 1.4 | 80.5 | 77.2 - 83.8 |
| COULTER AcT diff/diff 2 | 112 | 31.80 | 1.30 | 4.1 | 31.7 | 27.8 - 35.7 | 115 | 82.71 | 0.69 | 0.8 | 82.7 | 80.6 - 84.8 |
| Horiba ABX Micros/45/60 | 60 | 34.06 | 1.99 | 5.8 | 34.6 | 28.0 - 40.1 | 58 | 83.89 | 0.90 | 1.1 | 84.0 | 81.1 - 86.6 |

| | Specimen HD-10 | | | | | |
|---|---|---|---|---|---|---|
| All Method | 421 | 32.62 | 2.70 | 8.3 | 32.7 | 24.5 - 40.8 |
| All Abbott Cell-Dyn Instruments | 103 | 34.72 | 1.53 | 4.4 | 35.0 | 30.1 - 39.3 |
| All ABX Instruments | 59 | 34.23 | 1.96 | 5.7 | 34.1 | 28.3 - 40.2 |
| All Boule (CDS) Instruments | 122 | 30.61 | 2.85 | 9.3 | 30.0 | 22.0 - 39.2 |
| All COULTER Instruments | 115 | 32.05 | 1.67 | 5.2 | 32.0 | 27.0 - 37.1 |
| Abbott Cell-Dyn 1700 | 15 | 34.04 | 2.00 | 5.9 | 34.2 | 28.0 - 40.1 |
| Abbott Cell-Dyn 1800 | 23 | 34.58 | 1.83 | 5.3 | 35.0 | 29.0 - 40.1 |
| Abbott Cell-Dyn Emerald | 65 | 34.93 | 1.23 | 3.5 | 35.0 | 31.2 - 38.7 |
| Boule (CDS) Medonic M series | 122 | 30.61 | 2.85 | 9.3 | 30.0 | 22.0 - 39.2 |
| COULTER AcT diff/diff 2 | 113 | 32.05 | 1.68 | 5.2 | 32.0 | 27.0 - 37.1 |
| Horiba ABX Micros/45/60 | 59 | 34.23 | 1.96 | 5.7 | 34.1 | 28.3 - 40.2 |

## HEMATOLOGY W/ 5-PART DIFFERENTIAL–WHITE BLOOD CELL COUNT (x $10^9$/L)

| | Specimen DIF-6 | | | | | | Specimen DIF-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 14 | 9.57 | 0.12 | 1.3 | 9.6 | 8.1 - 11.1 | 14 | 24.32 | 0.57 | 2.3 | 24.3 | 20.6 - 28.0 |
| All COULTER Instruments | 12 | 9.59 | 0.11 | 1.2 | 9.6 | 8.1 - 11.1 | 12 | 24.33 | 0.61 | 2.5 | 24.2 | 20.6 - 28.0 |
| COULTER UniCel DxH 600 | 10 | 9.54 | 0.11 | 1.2 | 9.5 | 8.1 - 11.0 | 10 | 24.30 | 0.41 | 1.7 | 24.3 | 20.6 - 28.0 |
| | **Specimen DIF-8** | | | | | | **Specimen DIF-9** | | | | | |
| All Method | 14 | 4.16 | 0.32 | 7.8 | 4.0 | 3.5 - 4.8 | 14 | 21.14 | 0.40 | 1.9 | 21.1 | 17.9 - 24.4 |
| All COULTER Instruments | 12 | 4.18 | 0.34 | 8.2 | 4.1 | 3.5 - 4.9 | 12 | 21.10 | 0.41 | 1.9 | 21.1 | 17.9 - 24.3 |
| COULTER UniCel DxH 600 | 10 | 4.02 | 0.13 | 3.2 | 4.0 | 3.4 - 4.7 | 10 | 21.08 | 0.48 | 2.3 | 21.1 | 17.9 - 24.3 |
| | **Specimen DIF-10** | | | | | | | | | | | |
| All Method | 14 | 4.22 | 0.30 | 7.1 | 4.2 | 3.5 - 4.9 | | | | | | |
| All COULTER Instruments | 12 | 4.24 | 0.32 | 7.5 | 4.2 | 3.6 - 4.9 | | | | | | |
| COULTER UniCel DxH 600 | 10 | 4.14 | 0.09 | 2.2 | 4.2 | 3.5 - 4.8 | | | | | | |

## HEMATOLOGY W/ 5-PART DIFFERENTIAL–RED BLOOD CELL COUNT (x $10^{12}$/L)

| | Specimen DIF-6 | | | | | | Specimen DIF-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 14 | 4.084 | 0.063 | 1.6 | 4.06 | 3.83 - 4.33 | 14 | 6.233 | 0.107 | 1.7 | 6.20 | 5.85 - 6.61 |
| All COULTER Instruments | 12 | 4.094 | 0.061 | 1.5 | 4.08 | 3.84 - 4.34 | 12 | 6.239 | 0.113 | 1.8 | 6.21 | 5.86 - 6.62 |
| COULTER UniCel DxH 600 | 10 | 4.056 | 0.023 | 0.6 | 4.06 | 3.81 - 4.30 | 10 | 6.230 | 0.129 | 2.1 | 6.20 | 5.85 - 6.61 |
| | **Specimen DIF-8** | | | | | | **Specimen DIF-9** | | | | | |
| All Method | 14 | 2.578 | 0.058 | 2.2 | 2.57 | 2.42 - 2.74 | 14 | 5.279 | 0.085 | 1.6 | 5.28 | 4.96 - 5.60 |
| All COULTER Instruments | 12 | 2.576 | 0.062 | 2.4 | 2.57 | 2.42 - 2.74 | 12 | 5.279 | 0.091 | 1.7 | 5.28 | 4.96 - 5.60 |
| COULTER UniCel DxH 600 | 10 | 2.554 | 0.038 | 1.5 | 2.55 | 2.40 - 2.71 | 10 | 5.246 | 0.080 | 1.5 | 5.23 | 4.93 - 5.57 |
| | **Specimen DIF-10** | | | | | | | | | | | |
| All Method | 14 | 2.578 | 0.044 | 1.7 | 2.56 | 2.42 - 2.74 | | | | | | |
| All COULTER Instruments | 12 | 2.580 | 0.047 | 1.8 | 2.57 | 2.42 - 2.74 | | | | | | |
| COULTER UniCel DxH 600 | 10 | 2.572 | 0.037 | 1.4 | 2.58 | 2.41 - 2.73 | | | | | | |

## HEMATOLOGY W/ 5-PART DIFFERENTIAL–HEMOGLOBIN (g/dL)

| | Specimen DIF-6 | | | | | | Specimen DIF-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 14 | 11.76 | 0.18 | 1.5 | 11.8 | 10.9 - 12.6 | 14 | 19.69 | 0.17 | 0.9 | 19.7 | 18.3 - 21.1 |
| All COULTER Instruments | 12 | 11.78 | 0.18 | 1.6 | 11.8 | 10.9 - 12.6 | 12 | 19.71 | 0.16 | 0.8 | 19.7 | 18.3 - 21.1 |
| COULTER UniCel DxH 600 | 10 | 11.74 | 0.23 | 2.0 | 11.7 | 10.9 - 12.6 | 10 | 19.70 | 0.14 | 0.7 | 19.7 | 18.3 - 21.1 |
| | **Specimen DIF-8** | | | | | | **Specimen DIF-9** | | | | | |
| All Method | 14 | 5.90 | 0.09 | 1.5 | 5.9 | 5.4 - 6.4 | 14 | 16.98 | 0.22 | 1.3 | 17.0 | 15.7 - 18.2 |
| All COULTER Instruments | 12 | 5.91 | 0.08 | 1.4 | 5.9 | 5.4 - 6.4 | 12 | 17.03 | 0.18 | 1.1 | 17.1 | 15.8 - 18.3 |
| COULTER UniCel DxH 600 | 10 | 5.90 | 0.07 | 1.2 | 5.9 | 5.4 - 6.4 | 10 | 16.98 | 0.13 | 0.8 | 17.0 | 15.7 - 18.2 |
| | **Specimen DIF-10** | | | | | | | | | | | |
| All Method | 14 | 5.91 | 0.12 | 2.0 | 5.9 | 5.4 - 6.4 | | | | | | |
| All COULTER Instruments | 12 | 5.93 | 0.12 | 2.0 | 6.0 | 5.5 - 6.4 | | | | | | |
| COULTER UniCel DxH 600 | 10 | 5.90 | 0.10 | 1.7 | 5.9 | 5.4 - 6.4 | | | | | | |

## HEMATOLOGY W/ 5-PART DIFFERENTIAL–HEMATOCRIT (percent)

| | Specimen DIF-6 | | | | | | Specimen DIF-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 14 | 36.21 | 0.31 | 0.9 | 36.3 | 34.0 - 38.4 | 14 | 63.38 | 1.17 | 1.8 | 63.2 | 59.5 - 67.2 |
| All COULTER Instruments | 12 | 36.28 | 0.26 | 0.7 | 36.4 | 34.0 - 38.5 | 12 | 63.39 | 1.25 | 2.0 | 63.2 | 59.5 - 67.2 |
| COULTER UniCel DxH 600 | 10 | 36.32 | 0.13 | 0.4 | 36.4 | 34.1 - 38.5 | 10 | 63.90 | 1.21 | 1.9 | 63.5 | 60.0 - 67.8 |
| | **Specimen DIF-8** | | | | | | **Specimen DIF-9** | | | | | |
| All Method | 14 | 18.87 | 0.35 | 1.9 | 19.0 | 17.7 - 20.0 | 14 | 53.63 | 0.81 | 1.5 | 53.8 | 50.4 - 56.9 |
| All COULTER Instruments | 12 | 18.85 | 0.37 | 2.0 | 18.9 | 17.7 - 20.0 | 12 | 53.61 | 0.86 | 1.6 | 53.6 | 50.3 - 56.9 |
| COULTER UniCel DxH 600 | 10 | 18.90 | 0.24 | 1.3 | 18.8 | 17.7 - 20.1 | 10 | 53.72 | 0.87 | 1.6 | 53.3 | 50.4 - 57.0 |
| | **Specimen DIF-10** | | | | | | | | | | | |
| All Method | 14 | 18.86 | 0.34 | 1.8 | 18.9 | 17.7 - 20.0 | | | | | | |
| All COULTER Instruments | 12 | 18.86 | 0.37 | 1.9 | 18.9 | 17.7 - 20.0 | | | | | | |
| COULTER UniCel DxH 600 | 10 | 19.02 | 0.24 | 1.3 | 19.0 | 17.8 - 20.2 | | | | | | |

## HEMATOLOGY W/ 5-PART DIFFERENTIAL–PLATELET COUNT (x $10^9$/L)

| Instrument | Specimen DIF-6 Labs | Mean | SD | CV | Median | Range | Specimen DIF-7 Labs | Mean | SD | CV | Median | Range |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Method | 14 | 253.8 | 5.7 | 2.2 | 253 | 190 - 318 | 14 | 464.3 | 15.1 | 3.3 | 464 | 348 - 581 |
| All COULTER Instruments | 12 | 253.9 | 6.0 | 2.4 | 255 | 190 - 318 | 12 | 464.4 | 16.2 | 3.5 | 464 | 348 - 581 |
| COULTER UniCel DxH 600 | 10 | 252.6 | 7.4 | 2.9 | 251 | 189 - 316 | 10 | 467.2 | 9.7 | 2.1 | 468 | 350 - 584 |

| Instrument | Specimen DIF-8 Labs | Mean | SD | CV | Median | Range | Specimen DIF-9 Labs | Mean | SD | CV | Median | Range |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Method | 14 | 80.8 | 3.1 | 3.8 | 81 | 60 - 101 | 14 | 486.3 | 9.2 | 1.9 | 488 | 364 - 608 |
| All COULTER Instruments | 12 | 80.8 | 3.3 | 4.1 | 80 | 60 - 101 | 12 | 488.5 | 7.0 | 1.4 | 489 | 366 - 611 |
| COULTER UniCel DxH 600 | 10 | 80.0 | 2.5 | 3.2 | 79 | 60 - 100 | 10 | 489.4 | 2.8 | 0.6 | 488 | 367 - 612 |

| Instrument | Specimen DIF-10 Labs | Mean | SD | CV | Median | Range |
|---|---|---|---|---|---|---|
| All Method | 14 | 80.6 | 4.8 | 6.0 | 79 | 60 - 101 |
| All COULTER Instruments | 12 | 80.9 | 5.1 | 6.3 | 80 | 60 - 102 |
| COULTER UniCel DxH 600 | 10 | 79.2 | 2.9 | 3.6 | 79 | 59 - 99 |

## HEMATOLOGY W/ 5-PART DIFFERENTIAL–NEUTROPHILS (percent)

| Instrument | Specimen DIF-6 Labs | Mean | SD | CV | Median | Range | Specimen DIF-7 Labs | Mean | SD | CV | Median | Range |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Method | 14 | 57.49 | 1.28 | 2.2 | 57.8 | 53.6 - 61.4 | 14 | 68.43 | 0.45 | 0.7 | 68.3 | 67.0 - 69.8 |
| All COULTER Instruments | 12 | 57.35 | 1.29 | 2.3 | 57.6 | 53.4 - 61.3 | 12 | 68.36 | 0.42 | 0.6 | 68.3 | 67.0 - 69.7 |
| COULTER UniCel DxH 600 | 10 | 57.08 | 1.08 | 1.9 | 57.4 | 53.8 - 60.4 | 10 | 68.52 | 0.36 | 0.5 | 68.3 | 67.4 - 69.6 |

| Instrument | Specimen DIF-8 Labs | Mean | SD | CV | Median | Range | Specimen DIF-9 Labs | Mean | SD | CV | Median | Range |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Method | 14 | 50.34 | 1.22 | 2.4 | 50.4 | 46.6 - 54.0 | 14 | 67.67 | 0.81 | 1.2 | 67.6 | 65.2 - 70.1 |
| All COULTER Instruments | 12 | 50.14 | 1.12 | 2.2 | 50.3 | 46.7 - 53.5 | 12 | 67.60 | 0.84 | 1.2 | 67.6 | 65.0 - 70.2 |
| COULTER UniCel DxH 600 | 10 | 50.08 | 1.23 | 2.5 | 50.1 | 46.3 - 53.8 | 10 | 67.38 | 0.90 | 1.3 | 67.5 | 64.6 - 70.1 |

| Instrument | Specimen DIF-10 Labs | Mean | SD | CV | Median | Range |
|---|---|---|---|---|---|---|
| All Method | 14 | 50.79 | 0.48 | 0.9 | 50.7 | 49.3 - 52.3 |
| All COULTER Instruments | 12 | 50.81 | 0.50 | 1.0 | 50.8 | 49.3 - 52.4 |
| COULTER UniCel DxH 600 | 10 | 50.86 | 0.53 | 1.0 | 50.9 | 49.2 - 52.5 |

## HEMATOLOGY W/ 5-PART DIFFERENTIAL– LYMPHOCYTES (percent)

| | Specimen DIF-6 | | | | | | Specimen DIF-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 14 | 30.82 | 0.75 | 2.4 | 31.0 | 28.5 - 33.1 | 14 | 21.60 | 0.48 | 2.2 | 21.5 | 20.1 - 23.1 |
| All COULTER Instruments | 12 | 30.98 | 0.64 | 2.1 | 31.1 | 29.0 - 32.9 | 12 | 21.55 | 0.49 | 2.3 | 21.5 | 20.0 - 23.1 |
| COULTER UniCel DxH 600 | 10 | 30.98 | 0.74 | 2.4 | 31.0 | 28.7 - 33.2 | 10 | 21.44 | 0.38 | 1.8 | 21.4 | 20.2 - 22.6 |
| | **Specimen DIF-8** | | | | | | **Specimen DIF-9** | | | | | |
| All Method | 14 | 40.49 | 1.23 | 3.0 | 40.3 | 36.8 - 44.2 | 14 | 21.92 | 0.90 | 4.1 | 21.9 | 19.2 - 24.7 |
| All COULTER Instruments | 12 | 40.74 | 1.04 | 2.6 | 40.7 | 37.6 - 43.9 | 12 | 22.00 | 0.93 | 4.2 | 21.9 | 19.2 - 24.8 |
| COULTER UniCel DxH 600 | 10 | 40.88 | 1.30 | 3.2 | 41.1 | 36.9 - 44.8 | 10 | 22.32 | 0.95 | 4.3 | 21.9 | 19.4 - 25.2 |
| | **Specimen DIF-10** | | | | | | | | | | | |
| All Method | 14 | 40.09 | 0.44 | 1.1 | 40.1 | 38.7 - 41.5 | | | | | | |
| All COULTER Instruments | 12 | 40.06 | 0.46 | 1.1 | 40.1 | 38.6 - 41.5 | | | | | | |
| COULTER UniCel DxH 600 | 10 | 40.08 | 0.49 | 1.2 | 40.1 | 38.6 - 41.6 | | | | | | |

## HEMATOLOGY W/ 5-PART DIFFERENTIAL– MONOCYTES (percent)

| | Specimen DIF-6 | | | | | | Specimen DIF-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 14 | 5.23 | 0.78 | 14.9 | 5.3 | 2.8 - 7.6 | 14 | 5.83 | 0.41 | 7.0 | 5.9 | 4.6 - 7.1 |
| All COULTER Instruments | 12 | 5.23 | 0.83 | 15.9 | 5.3 | 2.7 - 7.8 | 12 | 5.89 | 0.40 | 6.8 | 6.0 | 4.6 - 7.1 |
| COULTER UniCel DxH 600 | 10 | 5.56 | 0.58 | 10.4 | 5.3 | 3.8 - 7.3 | 10 | 5.98 | 0.18 | 3.0 | 6.0 | 5.4 - 6.6 |
| | **Specimen DIF-8** | | | | | | **Specimen DIF-9** | | | | | |
| All Method | 14 | 1.22 | 0.39 | 31.6 | 1.4 | 0.0 - 2.4 | 14 | 6.08 | 0.56 | 9.2 | 6.1 | 4.4 - 7.8 |
| All COULTER Instruments | 12 | 1.18 | 0.38 | 32.7 | 1.3 | 0.0 - 2.4 | 12 | 6.03 | 0.57 | 9.5 | 6.1 | 4.3 - 7.8 |
| COULTER UniCel DxH 600 | 10 | 1.32 | 0.26 | 19.6 | 1.4 | 0.5 - 2.1 | 10 | 6.20 | 0.19 | 3.0 | 6.1 | 5.6 - 6.8 |
| | **Specimen DIF-10** | | | | | | | | | | | |
| All Method | 14 | 1.24 | 0.32 | 25.8 | 1.3 | 0.2 - 2.3 | | | | | | |
| All COULTER Instruments | 12 | 1.21 | 0.33 | 27.0 | 1.2 | 0.2 - 2.2 | | | | | | |
| COULTER UniCel DxH 600 | 10 | 1.28 | 0.18 | 14.0 | 1.3 | 0.7 - 1.9 | | | | | | |

## HEMATOLOGY W/ 5-PART DIFFERENTIAL– EOSINOPHILS (percent)

| | Specimen DIF-6 | | | | | | Specimen DIF-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 13 | 6.25 | 0.36 | 5.8 | 6.2 | 5.1 - 7.4 | 14 | 4.06 | 0.22 | 5.4 | 4.1 | 3.3 - 4.8 |
| All COULTER Instruments | 11 | 6.23 | 0.39 | 6.2 | 6.1 | 5.0 - 7.4 | 12 | 4.09 | 0.21 | 5.1 | 4.1 | 3.4 - 4.8 |
| COULTER UniCel DxH 600 | 9 | - | - | - | 6.2 | 5.0 - 7.4 | 10 | 4.02 | 0.16 | 4.1 | 4.1 | 3.5 - 4.6 |
| | **Specimen DIF-8** | | | | | | **Specimen DIF-9** | | | | | |
| All Method | 14 | 7.89 | 0.46 | 5.9 | 7.7 | 6.4 - 9.3 | 14 | 4.27 | 0.30 | 7.0 | 4.2 | 3.3 - 5.2 |
| All COULTER Instruments | 12 | 7.90 | 0.50 | 6.3 | 7.7 | 6.4 - 9.4 | 12 | 4.30 | 0.30 | 7.0 | 4.3 | 3.3 - 5.3 |
| COULTER UniCel DxH 600 | 10 | 7.68 | 0.29 | 3.7 | 7.7 | 6.8 - 8.6 | 10 | 4.16 | 0.27 | 6.5 | 4.1 | 3.3 - 5.0 |
| | **Specimen DIF-10** | | | | | | | | | | | |
| All Method | 14 | 7.83 | 0.42 | 5.4 | 7.8 | 6.5 - 9.1 | | | | | | |
| All COULTER Instruments | 12 | 7.86 | 0.44 | 5.6 | 7.9 | 6.5 - 9.2 | | | | | | |
| COULTER UniCel DxH 600 | 10 | 7.74 | 0.49 | 6.4 | 7.6 | 6.2 - 9.3 | | | | | | |

## HEMATOLOGY W/ 5-PART DIFFERENTIAL– BASOPHILS (percent)

| | Specimen DIF-6 | | | | | | Specimen DIF-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 14 | 0.16 | 0.20 | 129.0 | 0.1 | 0.0 - 0.8 | 14 | 0.10 | 0.15 | 150.0 | 0.0 | 0.0 - 0.6 |
| All COULTER Instruments | 12 | 0.16 | 0.21 | 131.3 | 0.1 | 0.0 - 0.9 | 12 | 0.11 | 0.16 | 138.0 | 0.1 | 0.0 - 0.6 |
| COULTER UniCel DxH 600 | 10 | 0.04 | 0.05 | 136.9 | 0.0 | 0.0 - 0.3 | 10 | 0.04 | 0.05 | 136.9 | 0.0 | 0.0 - 0.3 |
| | **Specimen DIF-8** | | | | | | **Specimen DIF-9** | | | | | |
| All Method | 14 | 0.06 | 0.05 | 94.9 | 0.1 | 0.0 - 0.3 | 14 | 0.06 | 0.05 | 94.9 | 0.1 | 0.0 - 0.3 |
| All COULTER Instruments | 12 | 0.05 | 0.05 | 106.9 | 0.1 | 0.0 - 0.3 | 12 | 0.05 | 0.05 | 106.9 | 0.1 | 0.0 - 0.3 |
| COULTER UniCel DxH 600 | 10 | 0.04 | 0.05 | 136.9 | 0.0 | 0.0 - 0.3 | 10 | 0.04 | 0.05 | 136.9 | 0.0 | 0.0 - 0.3 |
| | **Specimen DIF-10** | | | | | | | | | | | |
| All Method | 14 | 0.04 | 0.05 | 118.6 | 0.0 | 0.0 - 0.3 | | | | | | |
| All COULTER Instruments | 12 | 0.05 | 0.05 | 106.9 | 0.1 | 0.0 - 0.3 | | | | | | |
| COULTER UniCel DxH 600 | 10 | 0.04 | 0.05 | 136.9 | 0.0 | 0.0 - 0.3 | | | | | | |

## BLOOD LEAD (µg/dL)

| | Specimen LED-6 | | | | | | Specimen LED-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 19 | 5.05 | 0.77 | 15.3 | 4.9 | 1.0 - 9.1 | 20 | 25.97 | 1.87 | 7.2 | 26.0 | 21.9 - 30.0 |
| All Magellan Diagnostics Methods | 19 | 5.05 | 0.77 | 15.3 | 4.9 | 1.0 - 9.1 | 20 | 25.97 | 1.87 | 7.2 | 26.0 | 21.9 - 30.0 |
| Magellan Diagnostics LeadCare II | 19 | 5.05 | 0.77 | 15.3 | 4.9 | 1.0 - 9.1 | 20 | 25.97 | 1.87 | 7.2 | 26.0 | 21.9 - 30.0 |

| | Specimen LED-8 | | | | | | Specimen LED-9 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 5 | 45.15 | 1.34 | 3.0 | 45.2 | 40.6 - 49.7 | 5 | 19.75 | 2.47 | 12.5 | 19.8 | 15.7 - 23.8 |
| All Magellan Diagnostics Methods | 5 | 45.15 | 1.34 | 3.0 | 45.2 | 40.6 - 49.7 | 5 | 19.75 | 2.47 | 12.5 | 19.8 | 15.7 - 23.8 |

| | Specimen LED-10 | | | | | |
|---|---|---|---|---|---|---|
| All Method | 5 | 45.00 | 1.13 | 2.5 | 45.0 | 40.5 - 49.5 |
| All Magellan Diagnostics Methods | 5 | 45.00 | 1.13 | 2.5 | 45.0 | 40.5 - 49.5 |

## RETICULOCYTE COUNT (percent)

| | Specimen RT-3 | | | | | | Specimen RT-4 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 24 | 3.75 | 0.41 | 10.9 | 3.8 | 2.6 - 4.9 | 24 | 1.20 | 0.20 | 16.5 | 1.3 | 0.8 - 1.7 |
| All Automated Methods | 14 | 3.64 | 0.34 | 9.3 | 3.7 | 2.5 - 4.8 | 14 | 1.29 | 0.15 | 11.4 | 1.3 | 0.9 - 1.7 |
| All Manual Methods | 10 | 4.31 | 1.31 | 30.4 | 3.9 | 1.6 - 7.0 | 10 | 1.35 | 0.95 | 70.3 | 1.1 | 0.0 - 3.3 |

## HEMATOLOGY W/ 5-PART DIFFERENTIAL–WHITE BLOOD CELL COUNT (x $10^9$/L)

| | Specimen BCX-6 | | | | | | Specimen BCX-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 96 | 19.25 | 0.47 | 2.4 | 19.3 | 16.3 - 22.2 | 96 | 9.59 | 0.25 | 2.6 | 9.6 | 8.1 - 11.1 |
| All ABX Instruments | 88 | 19.25 | 0.44 | 2.3 | 19.3 | 16.3 - 22.2 | 88 | 9.59 | 0.23 | 2.4 | 9.6 | 8.1 - 11.1 |
| All COULTER Instruments | 10 | 18.89 | 1.09 | 5.8 | 19.1 | 16.0 - 21.8 | 10 | 9.64 | 0.38 | 4.0 | 9.7 | 8.1 - 11.1 |
| ABX Pentra 60C+ | 78 | 19.26 | 0.41 | 2.2 | 19.3 | 16.3 - 22.2 | 78 | 9.58 | 0.23 | 2.4 | 9.6 | 8.1 - 11.1 |
| ABX Pentra 80 / XL 80 | 10 | 19.23 | 0.72 | 3.7 | 19.4 | 16.3 - 22.2 | 10 | 9.66 | 0.28 | 2.9 | 9.6 | 8.2 - 11.2 |
| COULTER AcT 5diff | 10 | 18.89 | 1.09 | 5.8 | 19.1 | 16.0 - 21.8 | 10 | 9.64 | 0.38 | 4.0 | 9.7 | 8.1 - 11.1 |
| | **Specimen BCX-8** | | | | | | **Specimen BCX-9** | | | | | |
| All Method | 96 | 6.73 | 0.17 | 2.5 | 6.7 | 5.7 - 7.8 | 96 | 26.88 | 0.79 | 2.9 | 26.9 | 22.8 - 31.0 |
| All ABX Instruments | 88 | 6.73 | 0.16 | 2.4 | 6.7 | 5.7 - 7.8 | 88 | 26.90 | 0.71 | 2.6 | 26.9 | 22.8 - 31.0 |
| All COULTER Instruments | 10 | 6.79 | 0.22 | 3.2 | 6.8 | 5.7 - 7.9 | 10 | 25.47 | 3.13 | 12.3 | 26.5 | 21.6 - 29.3 |
| ABX Pentra 60C+ | 78 | 6.73 | 0.16 | 2.3 | 6.7 | 5.7 - 7.8 | 78 | 26.96 | 0.60 | 2.2 | 26.9 | 22.9 - 31.1 |
| ABX Pentra 80 / XL 80 | 10 | 6.81 | 0.21 | 3.1 | 6.8 | 5.7 - 7.9 | 10 | 26.36 | 0.92 | 3.5 | 26.4 | 22.4 - 30.4 |
| COULTER AcT 5diff | 10 | 6.79 | 0.22 | 3.2 | 6.8 | 5.7 - 7.9 | 10 | 25.47 | 3.13 | 12.3 | 26.5 | 21.6 - 29.3 |
| | **Specimen BCX-10** | | | | | | | | | | | |
| All Method | 96 | 2.66 | 0.09 | 3.4 | 2.7 | 2.2 - 3.1 | | | | | | |
| All ABX Instruments | 88 | 2.65 | 0.09 | 3.3 | 2.6 | 2.2 - 3.1 | | | | | | |
| All COULTER Instruments | 10 | 2.71 | 0.11 | 3.9 | 2.7 | 2.3 - 3.2 | | | | | | |
| ABX Pentra 60C+ | 78 | 2.64 | 0.08 | 3.0 | 2.6 | 2.2 - 3.1 | | | | | | |
| ABX Pentra 80 / XL 80 | 10 | 2.73 | 0.11 | 4.1 | 2.7 | 2.3 - 3.2 | | | | | | |
| COULTER AcT 5diff | 10 | 2.71 | 0.11 | 3.9 | 2.7 | 2.3 - 3.2 | | | | | | |

## HEMATOLOGY W/ 5-PART DIFFERENTIAL–RED BLOOD CELL COUNT (x $10^{12}$/L)

| | Specimen BCX-6 | | | | | | Specimen BCX-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 96 | 4.962 | 0.079 | 1.6 | 4.96 | 4.66 - 5.26 | 96 | 6.207 | 0.100 | 1.6 | 6.21 | 5.83 - 6.58 |
| All ABX Instruments | 88 | 4.960 | 0.079 | 1.6 | 4.96 | 4.66 - 5.26 | 88 | 6.208 | 0.101 | 1.6 | 6.21 | 5.83 - 6.59 |
| All COULTER Instruments | 10 | 4.987 | 0.076 | 1.5 | 4.99 | 4.68 - 5.29 | 10 | 6.218 | 0.071 | 1.1 | 6.23 | 5.84 - 6.60 |
| ABX Pentra 60C+ | 78 | 4.956 | 0.077 | 1.5 | 4.96 | 4.65 - 5.26 | 78 | 6.195 | 0.085 | 1.4 | 6.20 | 5.82 - 6.57 |
| ABX Pentra 80 / XL 80 | 10 | 4.994 | 0.107 | 2.1 | 5.00 | 4.69 - 5.30 | 10 | 6.293 | 0.160 | 2.5 | 6.33 | 5.91 - 6.68 |
| COULTER AcT 5diff | 10 | 4.987 | 0.076 | 1.5 | 4.99 | 4.68 - 5.29 | 10 | 6.218 | 0.071 | 1.1 | 6.23 | 5.84 - 6.60 |
| | **Specimen BCX-8** | | | | | | **Specimen BCX-9** | | | | | |
| All Method | 96 | 3.915 | 0.072 | 1.8 | 3.92 | 3.68 - 4.16 | 96 | 4.923 | 0.082 | 1.7 | 4.93 | 4.62 - 5.22 |
| All ABX Instruments | 88 | 3.917 | 0.075 | 1.9 | 3.92 | 3.68 - 4.16 | 88 | 4.922 | 0.081 | 1.6 | 4.94 | 4.62 - 5.22 |
| All COULTER Instruments | 10 | 3.906 | 0.044 | 1.1 | 3.89 | 3.67 - 4.14 | 10 | 4.943 | 0.092 | 1.9 | 4.91 | 4.64 - 5.24 |
| ABX Pentra 60C+ | 78 | 3.918 | 0.073 | 1.9 | 3.92 | 3.68 - 4.16 | 78 | 4.920 | 0.078 | 1.6 | 4.93 | 4.62 - 5.22 |
| ABX Pentra 80 / XL 80 | 10 | 3.889 | 0.097 | 2.5 | 3.89 | 3.65 - 4.13 | 10 | 4.930 | 0.107 | 2.2 | 4.94 | 4.63 - 5.23 |
| COULTER AcT 5diff | 10 | 3.906 | 0.044 | 1.1 | 3.89 | 3.67 - 4.14 | 10 | 4.943 | 0.092 | 1.9 | 4.91 | 4.64 - 5.24 |
| | **Specimen BCX-10** | | | | | | | | | | | |
| All Method | 96 | 2.357 | 0.042 | 1.8 | 2.35 | 2.21 - 2.50 | | | | | | |
| All ABX Instruments | 88 | 2.359 | 0.044 | 1.9 | 2.35 | 2.21 - 2.51 | | | | | | |
| All COULTER Instruments | 10 | 2.358 | 0.043 | 1.8 | 2.36 | 2.21 - 2.50 | | | | | | |
| ABX Pentra 60C+ | 78 | 2.361 | 0.039 | 1.7 | 2.35 | 2.21 - 2.51 | | | | | | |
| ABX Pentra 80 / XL 80 | 10 | 2.309 | 0.041 | 1.8 | 2.32 | 2.17 - 2.45 | | | | | | |
| COULTER AcT 5diff | 10 | 2.358 | 0.043 | 1.8 | 2.36 | 2.21 - 2.50 | | | | | | |

## HEMATOLOGY W/ 5-PART DIFFERENTIAL–HEMOGLOBIN (g/dL)

| | Specimen BCX-6 | | | | | | Specimen BCX-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 96 | 16.12 | 0.20 | 1.2 | 16.1 | 14.9 - 17.3 | 96 | 17.93 | 0.23 | 1.3 | 17.9 | 16.6 - 19.2 |
| All ABX Instruments | 88 | 16.13 | 0.20 | 1.3 | 16.1 | 15.0 - 17.3 | 88 | 17.95 | 0.23 | 1.3 | 17.9 | 16.6 - 19.3 |
| All COULTER Instruments | 10 | 16.00 | 0.14 | 0.9 | 16.0 | 14.8 - 17.2 | 10 | 17.77 | 0.10 | 0.6 | 17.8 | 16.5 - 19.1 |
| ABX Pentra 60C+ | 78 | 16.13 | 0.19 | 1.2 | 16.1 | 15.0 - 17.3 | 78 | 17.95 | 0.23 | 1.3 | 17.9 | 16.6 - 19.3 |
| ABX Pentra 80 / XL 80 | 10 | 16.10 | 0.28 | 1.7 | 16.0 | 14.9 - 17.3 | 10 | 17.94 | 0.29 | 1.6 | 17.8 | 16.6 - 19.2 |
| COULTER AcT 5diff | 10 | 16.00 | 0.14 | 0.9 | 16.0 | 14.8 - 17.2 | 10 | 17.77 | 0.10 | 0.6 | 17.8 | 16.5 - 19.1 |

| | Specimen BCX-8 | | | | | | Specimen BCX-9 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Method | 96 | 12.59 | 0.17 | 1.4 | 12.6 | 11.7 - 13.5 | 96 | 13.90 | 0.18 | 1.3 | 13.9 | 12.9 - 14.9 |
| All ABX Instruments | 88 | 12.60 | 0.18 | 1.4 | 12.6 | 11.7 - 13.5 | 88 | 13.90 | 0.18 | 1.3 | 13.9 | 12.9 - 14.9 |
| All COULTER Instruments | 10 | 12.54 | 0.10 | 0.8 | 12.6 | 11.6 - 13.5 | 10 | 13.94 | 0.22 | 1.6 | 13.9 | 12.9 - 15.0 |
| ABX Pentra 60C+ | 78 | 12.60 | 0.17 | 1.4 | 12.6 | 11.7 - 13.5 | 78 | 13.90 | 0.17 | 1.2 | 13.9 | 12.9 - 14.9 |
| ABX Pentra 80 / XL 80 | 10 | 12.50 | 0.22 | 1.7 | 12.5 | 11.6 - 13.4 | 10 | 13.87 | 0.24 | 1.8 | 13.8 | 12.9 - 14.9 |
| COULTER AcT 5diff | 10 | 12.54 | 0.10 | 0.8 | 12.6 | 11.6 - 13.5 | 10 | 13.94 | 0.22 | 1.6 | 13.9 | 12.9 - 15.0 |

| | Specimen BCX-10 | | | | | |
|---|---|---|---|---|---|---|
| All Method | 96 | 6.01 | 0.10 | 1.6 | 6.0 | 5.5 - 6.5 |
| All ABX Instruments | 88 | 6.00 | 0.09 | 1.5 | 6.0 | 5.5 - 6.5 |
| All COULTER Instruments | 10 | 6.12 | 0.07 | 1.1 | 6.1 | 5.6 - 6.6 |
| ABX Pentra 60C+ | 78 | 6.01 | 0.09 | 1.4 | 6.0 | 5.5 - 6.5 |
| ABX Pentra 80 / XL 80 | 10 | 5.93 | 0.11 | 1.9 | 5.9 | 5.5 - 6.4 |
| COULTER AcT 5diff | 10 | 6.12 | 0.07 | 1.1 | 6.1 | 5.6 - 6.6 |

## HEMATOLOGY W/ 5-PART DIFFERENTIAL–HEMATOCRIT (percent)

| | Specimen BCX-6 | | | | | | Specimen BCX-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 96 | 45.77 | 0.77 | 1.7 | 45.6 | 43.0 - 48.6 | 96 | 51.50 | 0.76 | 1.5 | 51.5 | 48.4 - 54.6 |
| All ABX Instruments | 88 | 45.79 | 0.76 | 1.7 | 45.7 | 43.0 - 48.6 | 88 | 51.55 | 0.76 | 1.5 | 51.6 | 48.4 - 54.7 |
| All COULTER Instruments | 10 | 45.61 | 0.91 | 2.0 | 45.6 | 42.8 - 48.4 | 10 | 51.12 | 0.57 | 1.1 | 51.2 | 48.0 - 54.2 |
| ABX Pentra 60C+ | 78 | 45.77 | 0.73 | 1.6 | 45.6 | 43.0 - 48.6 | 78 | 51.54 | 0.70 | 1.4 | 51.6 | 48.4 - 54.7 |
| ABX Pentra 80 / XL 80 | 10 | 45.94 | 1.08 | 2.3 | 46.3 | 43.1 - 48.7 | 10 | 51.47 | 1.26 | 2.5 | 51.6 | 48.3 - 54.6 |
| COULTER AcT 5diff | 10 | 45.61 | 0.91 | 2.0 | 45.6 | 42.8 - 48.4 | 10 | 51.12 | 0.57 | 1.1 | 51.2 | 48.0 - 54.2 |

| | Specimen BCX-8 | | | | | | Specimen BCX-9 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Method | 96 | 35.74 | 0.69 | 1.9 | 35.7 | 33.5 - 37.9 | 96 | 40.08 | 0.67 | 1.7 | 40.1 | 37.6 - 42.5 |
| All ABX Instruments | 88 | 35.78 | 0.71 | 2.0 | 35.8 | 33.6 - 38.0 | 88 | 40.10 | 0.67 | 1.7 | 40.1 | 37.6 - 42.6 |
| All COULTER Instruments | 10 | 35.51 | 0.40 | 1.1 | 35.4 | 33.3 - 37.7 | 10 | 39.99 | 0.71 | 1.8 | 39.7 | 37.5 - 42.4 |
| ABX Pentra 60C+ | 78 | 35.75 | 0.67 | 1.9 | 35.8 | 33.6 - 37.9 | 78 | 40.07 | 0.62 | 1.6 | 40.1 | 37.6 - 42.5 |
| ABX Pentra 80 / XL 80 | 10 | 35.96 | 1.10 | 3.1 | 35.6 | 33.7 - 38.2 | 10 | 40.29 | 1.02 | 2.5 | 40.3 | 37.8 - 42.8 |
| COULTER AcT 5diff | 10 | 35.51 | 0.40 | 1.1 | 35.4 | 33.3 - 37.7 | 10 | 39.99 | 0.71 | 1.8 | 39.7 | 37.5 - 42.4 |

| | Specimen BCX-10 | | | | | |
|---|---|---|---|---|---|---|
| All Method | 96 | 17.37 | 0.33 | 1.9 | 17.3 | 16.3 - 18.5 |
| All ABX Instruments | 88 | 17.38 | 0.34 | 1.9 | 17.4 | 16.3 - 18.5 |
| All COULTER Instruments | 10 | 17.31 | 0.33 | 1.9 | 17.2 | 16.2 - 18.4 |
| ABX Pentra 60C+ | 78 | 17.33 | 0.30 | 1.7 | 17.3 | 16.2 - 18.4 |
| ABX Pentra 80 / XL 80 | 10 | 17.70 | 0.42 | 2.4 | 17.6 | 16.6 - 18.8 |
| COULTER AcT 5diff | 10 | 17.31 | 0.33 | 1.9 | 17.2 | 16.2 - 18.4 |

## HEMATOLOGY W/ 5-PART DIFFERENTIAL–PLATELET COUNT (x $10^9$/L)

| | Specimen BCX-6 | | | | | | Specimen BCX-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 96 | 475.4 | 16.9 | 3.5 | 475 | 356 - 595 | 96 | 74.1 | 4.6 | 6.2 | 74 | 55 - 93 |
| All ABX Instruments | 88 | 476.4 | 16.3 | 3.4 | 476 | 357 - 596 | 88 | 74.0 | 4.6 | 6.2 | 74 | 55 - 93 |
| All COULTER Instruments | 10 | 466.8 | 21.1 | 4.5 | 470 | 350 - 584 | 10 | 75.8 | 5.0 | 6.6 | 75 | 56 - 95 |
| ABX Pentra 60C+ | 78 | 476.4 | 16.7 | 3.5 | 476 | 357 - 596 | 78 | 73.8 | 4.7 | 6.3 | 74 | 55 - 93 |
| ABX Pentra 80 / XL 80 | 10 | 478.0 | 14.1 | 3.0 | 485 | 358 - 598 | 10 | 76.9 | 2.0 | 2.6 | 76 | 57 - 97 |
| COULTER AcT 5diff | 10 | 466.8 | 21.1 | 4.5 | 470 | 350 - 584 | 10 | 75.8 | 5.0 | 6.6 | 75 | 56 - 95 |

| | Specimen BCX-8 | | | | | | Specimen BCX-9 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Method | 96 | 285.8 | 11.5 | 4.0 | 286 | 214 - 358 | 96 | 490.4 | 13.9 | 2.8 | 490 | 367 - 613 |
| All ABX Instruments | 88 | 286.3 | 11.5 | 4.0 | 286 | 214 - 358 | 88 | 491.6 | 13.8 | 2.8 | 491 | 368 - 615 |
| All COULTER Instruments | 10 | 281.6 | 11.1 | 3.9 | 283 | 211 - 352 | 10 | 479.7 | 11.0 | 2.3 | 482 | 359 - 600 |
| ABX Pentra 60C+ | 78 | 286.5 | 11.8 | 4.1 | 286 | 214 - 359 | 78 | 492.0 | 13.6 | 2.8 | 491 | 369 - 616 |
| ABX Pentra 80 / XL 80 | 10 | 284.0 | 10.3 | 3.6 | 288 | 213 - 355 | 10 | 484.7 | 14.2 | 2.9 | 485 | 363 - 606 |
| COULTER AcT 5diff | 10 | 281.6 | 11.1 | 3.9 | 283 | 211 - 352 | 10 | 479.7 | 11.0 | 2.3 | 482 | 359 - 600 |

| | Specimen BCX-10 | | | | | |
|---|---|---|---|---|---|---|
| All Method | 96 | 73.2 | 4.9 | 6.6 | 73 | 54 - 92 |
| All ABX Instruments | 88 | 73.4 | 5.0 | 6.8 | 73 | 55 - 92 |
| All COULTER Instruments | 10 | 71.9 | 2.5 | 3.5 | 73 | 53 - 90 |
| ABX Pentra 60C+ | 78 | 73.8 | 4.9 | 6.6 | 74 | 55 - 93 |
| ABX Pentra 80 / XL 80 | 10 | 68.3 | 4.3 | 6.4 | 68 | 51 - 86 |
| COULTER AcT 5diff | 10 | 71.9 | 2.5 | 3.5 | 73 | 53 - 90 |

## HEMATOLOGY W/ 5-PART DIFFERENTIAL–NEUTROPHILS (percent)

| | Specimen BCX-6 | | | | | | Specimen BCX-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 96 | 76.99 | 3.44 | 4.5 | 77.7 | 66.6 - 87.3 | 96 | 62.50 | 3.88 | 6.2 | 63.3 | 50.8 - 74.2 |
| All ABX Instruments | 88 | 77.60 | 2.50 | 3.2 | 77.8 | 70.1 - 85.1 | 88 | 62.54 | 3.87 | 6.2 | 63.4 | 50.9 - 74.2 |
| All COULTER Instruments | 10 | 66.23 | 2.45 | 3.7 | 66.3 | 58.8 - 73.6 | 10 | 60.03 | 6.25 | 10.4 | 61.1 | 41.2 - 78.8 |
| ABX Pentra 60C+ | 78 | 77.94 | 2.02 | 2.6 | 77.9 | 71.8 - 84.1 | 78 | 62.98 | 3.66 | 5.8 | 63.7 | 51.9 - 74.0 |
| ABX Pentra 80 / XL 80 | 10 | 73.27 | 4.14 | 5.6 | 72.3 | 60.8 - 85.7 | 10 | 57.73 | 3.17 | 5.5 | 57.6 | 48.2 - 67.3 |
| COULTER AcT 5diff | 10 | 66.23 | 2.45 | 3.7 | 66.3 | 58.8 - 73.6 | 10 | 60.03 | 6.25 | 10.4 | 61.1 | 41.2 - 78.8 |
| | **Specimen BCX-8** | | | | | | **Specimen BCX-9** | | | | | |
| All Method | 96 | 52.42 | 3.46 | 6.6 | 52.9 | 42.0 - 62.8 | 96 | 45.51 | 3.08 | 6.8 | 45.7 | 36.2 - 54.8 |
| All ABX Instruments | 88 | 52.45 | 3.47 | 6.6 | 52.9 | 42.0 - 62.9 | 88 | 45.64 | 3.11 | 6.8 | 45.9 | 36.3 - 55.0 |
| All COULTER Instruments | 10 | 52.10 | 3.70 | 7.1 | 53.3 | 40.9 - 63.3 | 10 | 41.20 | 5.72 | 13.9 | 43.5 | 24.0 - 58.4 |
| ABX Pentra 60C+ | 78 | 52.66 | 3.38 | 6.4 | 52.9 | 42.5 - 62.8 | 78 | 46.11 | 2.52 | 5.5 | 46.2 | 38.5 - 53.7 |
| ABX Pentra 80 / XL 80 | 10 | 49.39 | 2.94 | 6.0 | 49.6 | 40.5 - 58.3 | 10 | 41.10 | 3.90 | 9.5 | 38.3 | 29.3 - 52.9 |
| COULTER AcT 5diff | 10 | 52.10 | 3.70 | 7.1 | 53.3 | 40.9 - 63.3 | 10 | 41.20 | 5.72 | 13.9 | 43.5 | 24.0 - 58.4 |
| | **Specimen BCX-10** | | | | | | | | | | | |
| All Method | 96 | 67.03 | 3.83 | 5.7 | 67.5 | 55.5 - 78.6 | | | | | | |
| All ABX Instruments | 88 | 67.37 | 3.58 | 5.3 | 67.7 | 56.6 - 78.2 | | | | | | |
| All COULTER Instruments | 10 | 61.50 | 4.84 | 7.9 | 62.0 | 46.9 - 76.1 | | | | | | |
| ABX Pentra 60C+ | 78 | 67.60 | 3.50 | 5.2 | 67.8 | 57.0 - 78.2 | | | | | | |
| ABX Pentra 80 / XL 80 | 10 | 64.61 | 3.79 | 5.9 | 64.1 | 53.2 - 76.0 | | | | | | |
| COULTER AcT 5diff | 10 | 61.50 | 4.84 | 7.9 | 62.0 | 46.9 - 76.1 | | | | | | |

## HEMATOLOGY W/ 5-PART DIFFERENTIAL–LYMPHOCYTES (percent)

| | Specimen BCX-6 | | | | | | Specimen BCX-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 96 | 15.85 | 2.44 | 15.4 | 15.8 | 8.5 - 23.2 | 96 | 31.71 | 4.11 | 13.0 | 30.9 | 19.3 - 44.1 |
| All ABX Instruments | 88 | 16.08 | 2.09 | 13.0 | 16.0 | 9.8 - 22.4 | 88 | 31.81 | 3.89 | 12.2 | 31.1 | 20.1 - 43.5 |
| All COULTER Instruments | 10 | 12.76 | 2.62 | 20.5 | 12.3 | 4.9 - 20.7 | 10 | 30.94 | 6.70 | 21.7 | 28.4 | 10.8 - 51.1 |
| ABX Pentra 60C+ | 78 | 16.00 | 2.02 | 12.6 | 16.0 | 9.9 - 22.1 | 78 | 31.44 | 3.70 | 11.8 | 30.8 | 20.3 - 42.6 |
| ABX Pentra 80 / XL 80 | 10 | 20.79 | 3.73 | 18.0 | 20.9 | 9.5 - 32.0 | 10 | 36.14 | 3.93 | 10.9 | 36.3 | 24.3 - 48.0 |
| COULTER AcT 5diff | 10 | 12.76 | 2.62 | 20.5 | 12.3 | 4.9 - 20.7 | 10 | 30.94 | 6.70 | 21.7 | 28.4 | 10.8 - 51.1 |

| | Specimen BCX-8 | | | | | | Specimen BCX-9 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Method | 96 | 37.35 | 3.91 | 10.5 | 37.0 | 25.6 - 49.1 | 96 | 46.73 | 3.83 | 8.2 | 46.5 | 35.2 - 58.3 |
| All ABX Instruments | 88 | 37.66 | 3.76 | 10.0 | 37.2 | 26.3 - 49.0 | 88 | 47.16 | 3.35 | 7.1 | 46.6 | 37.1 - 57.3 |
| All COULTER Instruments | 10 | 34.21 | 4.57 | 13.4 | 34.3 | 20.5 - 48.0 | 10 | 41.83 | 5.57 | 13.3 | 40.3 | 25.1 - 58.6 |
| ABX Pentra 60C+ | 78 | 37.44 | 3.59 | 9.6 | 37.0 | 26.6 - 48.3 | 78 | 46.71 | 2.77 | 5.9 | 46.5 | 38.4 - 55.1 |
| ABX Pentra 80 / XL 80 | 10 | 40.94 | 4.25 | 10.4 | 40.9 | 28.2 - 53.7 | 10 | 52.80 | 4.43 | 8.4 | 55.8 | 39.5 - 66.1 |
| COULTER AcT 5diff | 10 | 34.21 | 4.57 | 13.4 | 34.3 | 20.5 - 48.0 | 10 | 41.83 | 5.57 | 13.3 | 40.3 | 25.1 - 58.6 |

| | Specimen BCX-10 | | | | | |
|---|---|---|---|---|---|---|
| All Method | 96 | 25.04 | 3.24 | 12.9 | 25.1 | 15.3 - 34.8 |
| All ABX Instruments | 88 | 25.40 | 3.02 | 11.9 | 25.2 | 16.3 - 34.5 |
| All COULTER Instruments | 10 | 20.05 | 3.77 | 18.8 | 19.3 | 8.7 - 31.4 |
| ABX Pentra 60C+ | 78 | 25.31 | 3.04 | 12.0 | 25.2 | 16.1 - 34.5 |
| ABX Pentra 80 / XL 80 | 10 | 26.65 | 2.95 | 11.1 | 26.1 | 17.7 - 35.6 |
| COULTER AcT 5diff | 10 | 20.05 | 3.77 | 18.8 | 19.3 | 8.7 - 31.4 |

## HEMATOLOGY W/ 5-PART DIFFERENTIAL–MONOCYTES (percent)

| | Specimen BCX-6 | | | | | | Specimen BCX-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 96 | 1.38 | 0.47 | 33.7 | 1.3 | 0.0 - 2.8 | 96 | 0.52 | 0.33 | 63.6 | 0.4 | 0.0 - 1.5 |
| All ABX Instruments | 88 | 1.35 | 0.45 | 33.5 | 1.2 | 0.0 - 2.8 | 88 | 0.46 | 0.26 | 56.6 | 0.4 | 0.0 - 1.3 |
| All COULTER Instruments | 10 | 1.72 | 0.50 | 29.1 | 1.7 | 0.2 - 3.3 | 10 | 1.17 | 0.63 | 53.7 | 1.1 | 0.0 - 3.1 |
| ABX Pentra 60C+ | 78 | 1.37 | 0.46 | 33.7 | 1.3 | 0.0 - 2.8 | 78 | 0.43 | 0.24 | 54.7 | 0.4 | 0.0 - 1.2 |
| ABX Pentra 80 / XL 80 | 10 | 1.19 | 0.38 | 32.1 | 1.2 | 0.0 - 2.4 | 10 | 0.73 | 0.36 | 49.9 | 0.6 | 0.0 - 1.9 |
| COULTER AcT 5diff | 10 | 1.72 | 0.50 | 29.1 | 1.7 | 0.2 - 3.3 | 10 | 1.17 | 0.63 | 53.7 | 1.1 | 0.0 - 3.1 |

| | Specimen BCX-8 | | | | | | Specimen BCX-9 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Method | 96 | 0.77 | 0.38 | 49.3 | 0.7 | 0.0 - 1.9 | 96 | 2.71 | 0.63 | 23.4 | 2.7 | 0.8 - 4.7 |
| All ABX Instruments | 88 | 0.76 | 0.38 | 49.6 | 0.7 | 0.0 - 1.9 | 88 | 2.70 | 0.63 | 23.2 | 2.7 | 0.8 - 4.6 |
| All COULTER Instruments | 10 | 0.79 | 0.41 | 51.7 | 0.9 | 0.0 - 2.1 | 10 | 3.27 | 0.79 | 24.1 | 3.1 | 0.9 - 5.7 |
| ABX Pentra 60C+ | 78 | 0.77 | 0.37 | 48.7 | 0.7 | 0.0 - 1.9 | 78 | 2.78 | 0.58 | 20.9 | 2.7 | 1.0 - 4.6 |
| ABX Pentra 80 / XL 80 | 10 | 0.74 | 0.40 | 53.8 | 0.6 | 0.0 - 2.0 | 10 | 1.86 | 0.46 | 25.0 | 1.6 | 0.4 - 3.3 |
| COULTER AcT 5diff | 10 | 0.79 | 0.41 | 51.7 | 0.9 | 0.0 - 2.1 | 10 | 3.27 | 0.79 | 24.1 | 3.1 | 0.9 - 5.7 |

| | Specimen BCX-10 | | | | | |
|---|---|---|---|---|---|---|
| All Method | 96 | 0.87 | 0.43 | 49.2 | 0.8 | 0.0 - 2.2 |
| All ABX Instruments | 88 | 0.88 | 0.43 | 49.0 | 0.8 | 0.0 - 2.2 |
| All COULTER Instruments | 10 | 0.82 | 0.39 | 47.0 | 0.7 | 0.0 - 2.0 |
| ABX Pentra 60C+ | 78 | 0.91 | 0.46 | 51.1 | 0.9 | 0.0 - 2.4 |
| ABX Pentra 80 / XL 80 | 10 | 0.80 | 0.28 | 35.4 | 0.6 | 0.0 - 1.7 |
| COULTER AcT 5diff | 10 | 0.82 | 0.39 | 47.0 | 0.7 | 0.0 - 2.0 |

## HEMATOLOGY W/ 5-PART DIFFERENTIAL– EOSINOPHILS (percent)

| | Specimen BCX-6 | | | | | | Specimen BCX-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 96 | 4.05 | 0.60 | 14.8 | 4.0 | 2.2 - 5.9 | 96 | 4.96 | 1.17 | 23.6 | 4.8 | 1.4 - 8.5 |
| All ABX Instruments | 88 | 3.99 | 0.57 | 14.3 | 3.9 | 2.2 - 5.7 | 88 | 5.06 | 1.17 | 23.0 | 5.0 | 1.5 - 8.6 |
| All COULTER Instruments | 10 | 5.08 | 0.91 | 18.0 | 4.8 | 2.3 - 7.9 | 10 | 3.81 | 0.49 | 12.9 | 3.7 | 2.3 - 5.3 |
| ABX Pentra 60C+ | 78 | 3.97 | 0.55 | 13.9 | 3.9 | 2.3 - 5.7 | 78 | 5.04 | 1.18 | 23.3 | 4.9 | 1.5 - 8.6 |
| ABX Pentra 80 / XL 80 | 10 | 4.06 | 0.71 | 17.5 | 4.0 | 1.9 - 6.2 | 10 | 5.20 | 1.18 | 22.7 | 5.4 | 1.6 - 8.8 |
| COULTER AcT 5diff | 10 | 5.08 | 0.91 | 18.0 | 4.8 | 2.3 - 7.9 | 10 | 3.81 | 0.49 | 12.9 | 3.7 | 2.3 - 5.3 |
| | **Specimen BCX-8** | | | | | | **Specimen BCX-9** | | | | | |
| All Method | 96 | 8.90 | 1.48 | 16.7 | 8.9 | 4.4 - 13.4 | 96 | 4.24 | 0.78 | 18.4 | 4.1 | 1.9 - 6.6 |
| All ABX Instruments | 88 | 8.96 | 1.45 | 16.2 | 9.0 | 4.6 - 13.4 | 88 | 4.16 | 0.74 | 17.9 | 4.1 | 1.9 - 6.4 |
| All COULTER Instruments | 10 | 8.05 | 1.66 | 20.6 | 7.7 | 3.0 - 13.1 | 10 | 5.23 | 0.94 | 17.9 | 5.2 | 2.4 - 8.1 |
| ABX Pentra 60C+ | 78 | 8.97 | 1.46 | 16.3 | 9.0 | 4.5 - 13.4 | 78 | 4.17 | 0.74 | 17.7 | 4.1 | 1.9 - 6.4 |
| ABX Pentra 80 / XL 80 | 10 | 8.76 | 1.47 | 16.8 | 8.6 | 4.3 - 13.2 | 10 | 3.94 | 0.85 | 21.6 | 4.1 | 1.3 - 6.5 |
| COULTER AcT 5diff | 10 | 8.05 | 1.66 | 20.6 | 7.7 | 3.0 - 13.1 | 10 | 5.23 | 0.94 | 17.9 | 5.2 | 2.4 - 8.1 |
| | **Specimen BCX-10** | | | | | | | | | | | |
| All Method | 96 | 5.49 | 1.48 | 26.9 | 5.4 | 1.0 - 10.0 | | | | | | |
| All ABX Instruments | 88 | 5.51 | 1.53 | 27.7 | 5.5 | 0.9 - 10.1 | | | | | | |
| All COULTER Instruments | 10 | 5.44 | 0.92 | 17.0 | 5.3 | 2.6 - 8.3 | | | | | | |
| ABX Pentra 60C+ | 78 | 5.53 | 1.62 | 29.3 | 5.4 | 0.6 - 10.5 | | | | | | |
| ABX Pentra 80 / XL 80 | 10 | 5.94 | 1.61 | 27.1 | 5.7 | 1.1 - 10.8 | | | | | | |
| COULTER AcT 5diff | 10 | 5.44 | 0.92 | 17.0 | 5.3 | 2.6 - 8.3 | | | | | | |

## HEMATOLOGY W/ 5-PART DIFFERENTIAL– BASOPHILS (percent)

| | Specimen BCX-6 | | | | | | Specimen BCX-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 96 | 0.77 | 0.05 | 6.0 | 0.8 | 0.6 - 1.0 | 96 | 0.20 | 0.01 | 0.0 | 0.2 | 0.1 - 0.3 |
| All ABX Instruments | 88 | 0.77 | 0.05 | 5.9 | 0.8 | 0.6 - 1.0 | 88 | 0.20 | 0.01 | 0.0 | 0.2 | 0.1 - 0.3 |
| All COULTER Instruments | 10 | 14.19 | 1.21 | 8.5 | 14.5 | 10.5 - 17.9 | 10 | 4.20 | 0.31 | 7.4 | 4.3 | 3.2 - 5.2 |
| ABX Pentra 60C+ | 78 | 0.78 | 0.04 | 5.3 | 0.8 | 0.6 - 1.0 | 78 | 0.20 | 0.01 | 0.0 | 0.2 | 0.1 - 0.3 |
| ABX Pentra 80 / XL 80 | 10 | 0.70 | 0.01 | 0.0 | 0.7 | 0.6 - 0.8 | 10 | 0.20 | 0.01 | 0.0 | 0.2 | 0.1 - 0.3 |
| COULTER AcT 5diff | 10 | 14.19 | 1.21 | 8.5 | 14.5 | 10.5 - 17.9 | 10 | 4.20 | 0.31 | 7.4 | 4.3 | 3.2 - 5.2 |

| | Specimen BCX-8 | | | | | | Specimen BCX-9 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Method | 96 | 0.18 | 0.04 | 24.9 | 0.2 | 0.0 - 0.4 | 96 | 0.30 | 0.01 | 0.0 | 0.3 | 0.2 - 0.4 |
| All ABX Instruments | 88 | 0.17 | 0.04 | 25.0 | 0.2 | 0.0 - 0.4 | 88 | 0.30 | 0.01 | 0.0 | 0.3 | 0.2 - 0.4 |
| All COULTER Instruments | 10 | 3.11 | 0.19 | 6.1 | 3.1 | 2.5 - 3.7 | 10 | 6.90 | 0.61 | 8.8 | 6.7 | 5.0 - 8.8 |
| ABX Pentra 60C+ | 78 | 0.17 | 0.04 | 25.1 | 0.2 | 0.0 - 0.4 | 78 | 0.30 | 0.01 | 0.0 | 0.3 | 0.2 - 0.4 |
| ABX Pentra 80 / XL 80 | 10 | 0.17 | 0.05 | 28.5 | 0.2 | 0.0 - 0.4 | 10 | 0.30 | 0.01 | 0.0 | 0.3 | 0.2 - 0.4 |
| COULTER AcT 5diff | 10 | 3.11 | 0.19 | 6.1 | 3.1 | 2.5 - 3.7 | 10 | 6.90 | 0.61 | 8.8 | 6.7 | 5.0 - 8.8 |

| | Specimen BCX-10 | | | | | |
|---|---|---|---|---|---|---|
| All Method | 96 | 0.58 | 0.04 | 7.4 | 0.6 | 0.4 - 0.8 |
| All ABX Instruments | 88 | 0.58 | 0.04 | 7.3 | 0.6 | 0.4 - 0.8 |
| All COULTER Instruments | 10 | 11.20 | 0.51 | 4.6 | 11.3 | 9.6 - 12.8 |
| ABX Pentra 60C+ | 78 | 0.58 | 0.04 | 7.5 | 0.6 | 0.4 - 0.8 |
| ABX Pentra 80 / XL 80 | 10 | 0.59 | 0.04 | 6.5 | 0.6 | 0.4 - 0.7 |
| COULTER AcT 5diff | 10 | 11.20 | 0.51 | 4.6 | 11.3 | 9.6 - 12.8 |

## HEMATOLOGY W/ 5 or 6-PART DIFFERENTIAL–WHITE BLOOD CELL COUNT (x $10^9$/L)

### Specimen MX-6

| *Instrument* | *Labs* | *Mean* | *SD* | *CV* | *Median* | *Range* |
|---|---|---|---|---|---|---|
| All Method | 110 | 7.18 | 0.45 | 6.2 | 7.1 | 6.1 - 8.3 |
| All Sysmex XE/XT Instruments | 10 | 7.38 | 0.38 | 5.2 | 7.2 | 6.2 - 8.5 |
| All Sysmex XN/XS Instruments | 105 | 7.17 | 0.45 | 6.3 | 7.0 | 6.0 - 8.3 |
| Sysmex XN-1000 | 14 | 7.44 | 0.20 | 2.7 | 7.5 | 6.3 - 8.6 |
| Sysmex XN-430 | 27 | 7.14 | 0.40 | 5.6 | 7.0 | 6.0 - 8.3 |
| Sysmex XN-550 | 17 | 7.20 | 0.39 | 5.4 | 7.1 | 6.1 - 8.3 |
| Sysmex XS-1000i | 36 | 7.12 | 0.56 | 7.8 | 6.8 | 6.0 - 8.2 |

### Specimen MX-7

| *Instrument* | *Labs* | *Mean* | *SD* | *CV* | *Median* | *Range* |
|---|---|---|---|---|---|---|
| All Method | 110 | 22.24 | 0.64 | 2.9 | 22.2 | 18.9 - 25.6 |
| All Sysmex XE/XT Instruments | 10 | 21.66 | 0.80 | 3.7 | 21.5 | 18.4 - 25.0 |
| All Sysmex XN/XS Instruments | 105 | 22.27 | 0.62 | 2.8 | 22.3 | 18.9 - 25.7 |
| Sysmex XN-1000 | 14 | 22.46 | 0.25 | 1.1 | 22.5 | 19.0 - 25.9 |
| Sysmex XN-430 | 27 | 22.22 | 0.81 | 3.7 | 22.1 | 18.8 - 25.6 |
| Sysmex XN-550 | 17 | 22.22 | 0.67 | 3.0 | 22.2 | 18.8 - 25.6 |
| Sysmex XS-1000i | 36 | 22.44 | 0.59 | 2.6 | 22.3 | 19.0 - 25.9 |

### Specimen MX-8

| *Instrument* | *Labs* | *Mean* | *SD* | *CV* | *Median* | *Range* |
|---|---|---|---|---|---|---|
| All Method | 110 | 3.51 | 0.36 | 10.3 | 3.4 | 2.9 - 4.1 |
| All Sysmex XE/XT Instruments | 10 | 3.76 | 0.11 | 3.0 | 3.8 | 3.1 - 4.4 |
| All Sysmex XN/XS Instruments | 105 | 3.50 | 0.36 | 10.4 | 3.3 | 2.9 - 4.1 |
| Sysmex XN-1000 | 14 | 3.79 | 0.09 | 2.3 | 3.8 | 3.2 - 4.4 |
| Sysmex XN-430 | 27 | 3.36 | 0.28 | 8.4 | 3.2 | 2.8 - 3.9 |
| Sysmex XN-550 | 17 | 3.31 | 0.33 | 9.8 | 3.2 | 2.8 - 3.9 |
| Sysmex XS-1000i | 36 | 3.65 | 0.39 | 10.8 | 3.9 | 3.1 - 4.3 |

### Specimen MX-9

| *Instrument* | *Labs* | *Mean* | *SD* | *CV* | *Median* | *Range* |
|---|---|---|---|---|---|---|
| All Method | 110 | 20.63 | 0.54 | 2.6 | 20.6 | 17.5 - 23.8 |
| All Sysmex XE/XT Instruments | 10 | 20.12 | 0.60 | 3.0 | 19.9 | 17.1 - 23.2 |
| All Sysmex XN/XS Instruments | 105 | 20.65 | 0.52 | 2.5 | 20.7 | 17.5 - 23.8 |
| Sysmex XN-1000 | 14 | 20.83 | 0.27 | 1.3 | 20.9 | 17.7 - 24.0 |
| Sysmex XN-430 | 27 | 20.61 | 0.61 | 3.0 | 20.6 | 17.5 - 23.7 |
| Sysmex XN-550 | 17 | 20.68 | 0.58 | 2.8 | 20.5 | 17.5 - 23.8 |
| Sysmex XS-1000i | 36 | 20.69 | 0.52 | 2.5 | 20.7 | 17.5 - 23.8 |

### Specimen MX-10

| *Instrument* | *Labs* | *Mean* | *SD* | *CV* | *Median* | *Range* |
|---|---|---|---|---|---|---|
| All Method | 110 | 3.47 | 0.33 | 9.4 | 3.4 | 2.9 - 4.0 |
| All Sysmex XE/XT Instruments | 10 | 3.76 | 0.11 | 3.0 | 3.8 | 3.1 - 4.4 |
| All Sysmex XN/XS Instruments | 105 | 3.46 | 0.33 | 9.5 | 3.3 | 2.9 - 4.0 |
| Sysmex XN-1000 | 14 | 3.76 | 0.09 | 2.3 | 3.8 | 3.1 - 4.4 |
| Sysmex XN-430 | 27 | 3.36 | 0.26 | 7.7 | 3.3 | 2.8 - 3.9 |
| Sysmex XN-550 | 17 | 3.38 | 0.27 | 8.1 | 3.3 | 2.8 - 3.9 |
| Sysmex XS-1000i | 36 | 3.51 | 0.39 | 11.3 | 3.4 | 2.9 - 4.1 |

## HEMATOLOGY W/ 5 or 6-PART DIFFERENTIAL–RED BLOOD CELL COUNT (x $10^{12}$/L)

| | Specimen MX-6 | | | | | | Specimen MX-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 110 | 4.668 | 0.044 | 0.9 | 4.67 | 4.38 - 4.95 | 110 | 6.248 | 0.065 | 1.0 | 6.25 | 5.87 - 6.63 |
| All Sysmex XE/XT Instruments | 10 | 4.702 | 0.059 | 1.3 | 4.68 | 4.41 - 4.99 | 10 | 6.174 | 0.123 | 2.0 | 6.13 | 5.80 - 6.55 |
| All Sysmex XN/XS Instruments | 105 | 4.667 | 0.043 | 0.9 | 4.66 | 4.38 - 4.95 | 105 | 6.249 | 0.064 | 1.0 | 6.25 | 5.87 - 6.63 |
| Sysmex XN-1000 | 14 | 4.672 | 0.026 | 0.6 | 4.67 | 4.39 - 4.96 | 14 | 6.240 | 0.059 | 0.9 | 6.24 | 5.86 - 6.62 |
| Sysmex XN-430 | 27 | 4.675 | 0.066 | 1.4 | 4.68 | 4.39 - 4.96 | 27 | 6.273 | 0.065 | 1.0 | 6.28 | 5.89 - 6.65 |
| Sysmex XN-550 | 17 | 4.660 | 0.043 | 0.9 | 4.66 | 4.38 - 4.94 | 17 | 6.244 | 0.043 | 0.7 | 6.24 | 5.86 - 6.62 |
| Sysmex XS-1000i | 36 | 4.664 | 0.044 | 0.9 | 4.67 | 4.38 - 4.95 | 36 | 6.227 | 0.068 | 1.1 | 6.23 | 5.85 - 6.61 |
| | **Specimen MX-8** | | | | | | **Specimen MX-9** | | | | | |
| All Method | 110 | 2.195 | 0.033 | 1.5 | 2.20 | 2.06 - 2.33 | 110 | 5.791 | 0.065 | 1.1 | 5.79 | 5.44 - 6.14 |
| All Sysmex XE/XT Instruments | 10 | 2.298 | 0.032 | 1.4 | 2.32 | 2.16 - 2.44 | 10 | 5.692 | 0.170 | 3.0 | 5.70 | 5.35 - 6.04 |
| All Sysmex XN/XS Instruments | 105 | 2.194 | 0.031 | 1.4 | 2.20 | 2.06 - 2.33 | 105 | 5.793 | 0.063 | 1.1 | 5.79 | 5.44 - 6.15 |
| Sysmex XN-1000 | 14 | 2.195 | 0.023 | 1.0 | 2.20 | 2.06 - 2.33 | 14 | 5.794 | 0.050 | 0.9 | 5.78 | 5.44 - 6.15 |
| Sysmex XN-430 | 27 | 2.187 | 0.032 | 1.5 | 2.19 | 2.05 - 2.32 | 27 | 5.816 | 0.066 | 1.1 | 5.81 | 5.46 - 6.17 |
| Sysmex XN-550 | 17 | 2.178 | 0.023 | 1.1 | 2.19 | 2.04 - 2.31 | 17 | 5.803 | 0.060 | 1.0 | 5.80 | 5.45 - 6.16 |
| Sysmex XS-1000i | 36 | 2.214 | 0.024 | 1.1 | 2.21 | 2.08 - 2.35 | 36 | 5.768 | 0.060 | 1.0 | 5.77 | 5.42 - 6.12 |

| | Specimen MX-10 | | | | | |
|---|---|---|---|---|---|---|
| All Method | 110 | 2.196 | 0.035 | 1.6 | 2.20 | 2.06 - 2.33 |
| All Sysmex XE/XT Instruments | 10 | 2.292 | 0.026 | 1.1 | 2.30 | 2.15 - 2.43 |
| All Sysmex XN/XS Instruments | 105 | 2.194 | 0.030 | 1.3 | 2.20 | 2.06 - 2.33 |
| Sysmex XN-1000 | 14 | 2.186 | 0.026 | 1.2 | 2.18 | 2.05 - 2.32 |
| Sysmex XN-430 | 27 | 2.183 | 0.030 | 1.4 | 2.18 | 2.05 - 2.32 |
| Sysmex XN-550 | 17 | 2.177 | 0.030 | 1.4 | 2.17 | 2.04 - 2.31 |
| Sysmex XS-1000i | 36 | 2.214 | 0.025 | 1.1 | 2.22 | 2.08 - 2.35 |

## HEMATOLOGY W/ 5 or 6-PART DIFFERENTIAL–HEMOGLOBIN (g/dL)

### Specimen MX-6

| *Instrument* | *Labs* | *Mean* | *SD* | *CV* | *Median* | *Range* |
|---|---|---|---|---|---|---|
| All Method | 110 | 13.22 | 0.12 | 0.9 | 13.2 | 12.2 - 14.2 |
| All Sysmex XE/XT Instruments | 10 | 13.28 | 0.13 | 1.0 | 13.2 | 12.3 - 14.3 |
| All Sysmex XN/XS Instruments | 105 | 13.22 | 0.12 | 0.9 | 13.2 | 12.2 - 14.2 |
| Sysmex XN-1000 | 14 | 13.23 | 0.13 | 1.0 | 13.2 | 12.3 - 14.2 |
| Sysmex XN-430 | 27 | 13.17 | 0.13 | 1.0 | 13.2 | 12.2 - 14.1 |
| Sysmex XN-550 | 17 | 13.21 | 0.09 | 0.7 | 13.2 | 12.2 - 14.2 |
| Sysmex XS-1000i | 36 | 13.28 | 0.11 | 0.9 | 13.3 | 12.3 - 14.3 |

### Specimen MX-7

| *Instrument* | *Labs* | *Mean* | *SD* | *CV* | *Median* | *Range* |
|---|---|---|---|---|---|---|
| All Method | 110 | 19.11 | 0.22 | 1.1 | 19.1 | 17.7 - 20.5 |
| All Sysmex XE/XT Instruments | 10 | 19.02 | 0.26 | 1.4 | 19.1 | 17.6 - 20.4 |
| All Sysmex XN/XS Instruments | 105 | 19.12 | 0.22 | 1.1 | 19.1 | 17.7 - 20.5 |
| Sysmex XN-1000 | 14 | 19.04 | 0.20 | 1.1 | 19.1 | 17.7 - 20.4 |
| Sysmex XN-430 | 27 | 19.00 | 0.18 | 0.9 | 19.0 | 17.6 - 20.4 |
| Sysmex XN-550 | 17 | 19.07 | 0.15 | 0.8 | 19.0 | 17.7 - 20.5 |
| Sysmex XS-1000i | 36 | 19.28 | 0.19 | 1.0 | 19.3 | 17.9 - 20.7 |

### Specimen MX-8

| *Instrument* | *Labs* | *Mean* | *SD* | *CV* | *Median* | *Range* |
|---|---|---|---|---|---|---|
| All Method | 110 | 5.75 | 0.07 | 1.2 | 5.8 | 5.3 - 6.2 |
| All Sysmex XE/XT Instruments | 10 | 5.86 | 0.09 | 1.5 | 5.8 | 5.4 - 6.3 |
| All Sysmex XN/XS Instruments | 105 | 5.75 | 0.07 | 1.2 | 5.8 | 5.3 - 6.2 |
| Sysmex XN-1000 | 14 | 5.76 | 0.08 | 1.3 | 5.8 | 5.3 - 6.2 |
| Sysmex XN-430 | 27 | 5.76 | 0.06 | 1.1 | 5.8 | 5.3 - 6.2 |
| Sysmex XN-550 | 17 | 5.78 | 0.07 | 1.3 | 5.8 | 5.3 - 6.2 |
| Sysmex XS-1000i | 36 | 5.73 | 0.07 | 1.3 | 5.7 | 5.3 - 6.2 |

### Specimen MX-9

| *Instrument* | *Labs* | *Mean* | *SD* | *CV* | *Median* | *Range* |
|---|---|---|---|---|---|---|
| All Method | 110 | 17.71 | 0.18 | 1.0 | 17.7 | 16.4 - 19.0 |
| All Sysmex XE/XT Instruments | 10 | 17.74 | 0.24 | 1.4 | 17.8 | 16.4 - 19.0 |
| All Sysmex XN/XS Instruments | 105 | 17.71 | 0.18 | 1.0 | 17.7 | 16.4 - 19.0 |
| Sysmex XN-1000 | 14 | 17.69 | 0.15 | 0.8 | 17.7 | 16.4 - 19.0 |
| Sysmex XN-430 | 27 | 17.59 | 0.12 | 0.7 | 17.6 | 16.3 - 18.9 |
| Sysmex XN-550 | 17 | 17.66 | 0.13 | 0.8 | 17.6 | 16.4 - 18.9 |
| Sysmex XS-1000i | 36 | 17.84 | 0.17 | 1.0 | 17.8 | 16.5 - 19.1 |

### Specimen MX-10

| *Instrument* | *Labs* | *Mean* | *SD* | *CV* | *Median* | *Range* |
|---|---|---|---|---|---|---|
| All Method | 110 | 5.75 | 0.08 | 1.3 | 5.8 | 5.3 - 6.2 |
| All Sysmex XE/XT Instruments | 10 | 5.86 | 0.09 | 1.5 | 5.8 | 5.4 - 6.3 |
| All Sysmex XN/XS Instruments | 105 | 5.75 | 0.07 | 1.3 | 5.7 | 5.3 - 6.2 |
| Sysmex XN-1000 | 14 | 5.74 | 0.10 | 1.8 | 5.8 | 5.3 - 6.2 |
| Sysmex XN-430 | 27 | 5.75 | 0.07 | 1.2 | 5.8 | 5.3 - 6.2 |
| Sysmex XN-550 | 17 | 5.77 | 0.07 | 1.2 | 5.8 | 5.3 - 6.2 |
| Sysmex XS-1000i | 36 | 5.74 | 0.07 | 1.2 | 5.7 | 5.3 - 6.2 |

## HEMATOLOGY W/ 5 or 6-PART DIFFERENTIAL – HEMATOCRIT (percent)

| | Specimen MX-6 | | | | | | Specimen MX-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 110 | 39.50 | 0.66 | 1.7 | 39.5 | 37.1 - 41.9 | 110 | 56.93 | 1.02 | 1.8 | 57.1 | 53.5 - 60.4 |
| All Sysmex XE/XT Instruments | 10 | 39.90 | 0.69 | 1.7 | 40.0 | 37.5 - 42.3 | 10 | 56.90 | 1.03 | 1.8 | 56.9 | 53.4 - 60.4 |
| All Sysmex XN/XS Instruments | 105 | 39.48 | 0.65 | 1.6 | 39.5 | 37.1 - 41.9 | 105 | 56.93 | 1.02 | 1.8 | 57.1 | 53.5 - 60.4 |
| Sysmex XN-1000 | 14 | 39.43 | 0.47 | 1.2 | 39.4 | 37.0 - 41.8 | 14 | 56.83 | 0.62 | 1.1 | 57.0 | 53.4 - 60.3 |
| Sysmex XN-430 | 27 | 39.25 | 0.86 | 2.2 | 39.4 | 36.8 - 41.7 | 27 | 56.68 | 1.08 | 1.9 | 56.7 | 53.2 - 60.1 |
| Sysmex XN-550 | 17 | 39.25 | 0.74 | 1.9 | 39.2 | 36.8 - 41.7 | 17 | 56.62 | 0.96 | 1.7 | 56.5 | 53.2 - 60.1 |
| Sysmex XS-1000i | 36 | 39.73 | 0.55 | 1.4 | 39.9 | 37.3 - 42.2 | 36 | 57.25 | 1.09 | 1.9 | 57.3 | 53.8 - 60.7 |

| | Specimen MX-8 | | | | | | Specimen MX-9 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Method | 110 | 17.45 | 0.43 | 2.5 | 17.5 | 16.4 - 18.6 | 110 | 52.91 | 0.99 | 1.9 | 53.0 | 49.7 - 56.1 |
| All Sysmex XE/XT Instruments | 10 | 18.22 | 0.40 | 2.2 | 18.4 | 17.1 - 19.4 | 10 | 52.52 | 1.91 | 3.6 | 52.6 | 49.3 - 55.7 |
| All Sysmex XN/XS Instruments | 105 | 17.43 | 0.39 | 2.2 | 17.5 | 16.3 - 18.5 | 105 | 52.90 | 0.99 | 1.9 | 53.0 | 49.7 - 56.1 |
| Sysmex XN-1000 | 14 | 17.26 | 0.23 | 1.4 | 17.3 | 16.2 - 18.3 | 14 | 52.76 | 0.54 | 1.0 | 52.8 | 49.5 - 56.0 |
| Sysmex XN-430 | 27 | 17.24 | 0.38 | 2.2 | 17.3 | 16.2 - 18.3 | 27 | 52.62 | 1.02 | 1.9 | 52.7 | 49.4 - 55.8 |
| Sysmex XN-550 | 17 | 17.26 | 0.35 | 2.0 | 17.3 | 16.2 - 18.3 | 17 | 52.71 | 1.20 | 2.3 | 52.6 | 49.5 - 55.9 |
| Sysmex XS-1000i | 36 | 17.76 | 0.26 | 1.5 | 17.8 | 16.6 - 18.9 | 36 | 53.27 | 0.94 | 1.8 | 53.4 | 50.0 - 56.5 |

| | Specimen MX-10 | | | | | |
|---|---|---|---|---|---|---|
| All Method | 110 | 17.42 | 0.43 | 2.5 | 17.5 | 16.3 - 18.5 |
| All Sysmex XE/XT Instruments | 10 | 18.22 | 0.30 | 1.7 | 18.4 | 17.1 - 19.4 |
| All Sysmex XN/XS Instruments | 105 | 17.39 | 0.40 | 2.3 | 17.4 | 16.3 - 18.5 |
| Sysmex XN-1000 | 14 | 17.15 | 0.24 | 1.4 | 17.2 | 16.1 - 18.2 |
| Sysmex XN-430 | 27 | 17.20 | 0.40 | 2.3 | 17.3 | 16.1 - 18.3 |
| Sysmex XN-550 | 17 | 17.21 | 0.36 | 2.1 | 17.1 | 16.1 - 18.3 |
| Sysmex XS-1000i | 36 | 17.73 | 0.22 | 1.2 | 17.7 | 16.6 - 18.8 |

## HEMATOLOGY W/ 5 or 6-PART DIFFERENTIAL–PLATELET COUNT (x $10^9$/L)

| | Specimen MX-6 | | | | | | Specimen MX-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 110 | 217.3 | 7.9 | 3.6 | 217 | 162 - 272 | 110 | 415.2 | 19.3 | 4.6 | 419 | 311 - 520 |
| All Sysmex XE/XT Instruments | 10 | 210.6 | 10.0 | 4.7 | 210 | 157 - 264 | 10 | 388.8 | 20.3 | 5.2 | 381 | 291 - 486 |
| All Sysmex XN/XS Instruments | 105 | 217.6 | 7.7 | 3.5 | 218 | 163 - 273 | 105 | 416.5 | 18.4 | 4.4 | 420 | 312 - 521 |
| Sysmex XN-1000 | 14 | 213.4 | 6.6 | 3.1 | 215 | 160 - 267 | 14 | 417.7 | 16.3 | 3.9 | 422 | 313 - 523 |
| Sysmex XN-430 | 27 | 222.5 | 7.8 | 3.5 | 222 | 166 - 279 | 27 | 427.0 | 12.7 | 3.0 | 425 | 320 - 534 |
| Sysmex XN-550 | 17 | 221.2 | 8.0 | 3.6 | 220 | 165 - 277 | 17 | 426.4 | 10.8 | 2.5 | 425 | 319 - 534 |
| Sysmex XS-1000i | 36 | 215.1 | 6.2 | 2.9 | 215 | 161 - 269 | 36 | 398.4 | 10.5 | 2.6 | 396 | 298 - 499 |

| | Specimen MX-8 | | | | | | Specimen MX-9 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Method | 110 | 55.3 | 3.7 | 6.6 | 55 | 41 - 70 | 110 | 413.4 | 18.1 | 4.4 | 413 | 310 - 517 |
| All Sysmex XE/XT Instruments | 10 | 56.6 | 9.0 | 15.8 | 56 | 42 - 71 | 10 | 383.2 | 25.6 | 6.7 | 384 | 287 - 479 |
| All Sysmex XN/XS Instruments | 105 | 55.3 | 3.5 | 6.3 | 55 | 41 - 70 | 105 | 414.3 | 17.4 | 4.2 | 414 | 310 - 518 |
| Sysmex XN-1000 | 14 | 52.6 | 2.6 | 5.0 | 52 | 39 - 66 | 14 | 411.8 | 13.4 | 3.2 | 410 | 308 - 515 |
| Sysmex XN-430 | 27 | 54.5 | 3.7 | 6.7 | 54 | 40 - 69 | 27 | 420.8 | 13.4 | 3.2 | 417 | 315 - 527 |
| Sysmex XN-550 | 17 | 55.4 | 3.1 | 5.6 | 55 | 41 - 70 | 17 | 427.4 | 11.7 | 2.7 | 428 | 320 - 535 |
| Sysmex XS-1000i | 36 | 56.7 | 3.0 | 5.4 | 57 | 42 - 71 | 36 | 400.8 | 11.9 | 3.0 | 401 | 300 - 501 |

| | Specimen MX-10 | | | | | |
|---|---|---|---|---|---|---|
| All Method | 110 | 55.3 | 3.9 | 7.1 | 55 | 41 - 70 |
| All Sysmex XE/XT Instruments | 10 | 58.6 | 7.6 | 13.0 | 59 | 43 - 74 |
| All Sysmex XN/XS Instruments | 105 | 55.2 | 3.7 | 6.7 | 55 | 41 - 69 |
| Sysmex XN-1000 | 14 | 52.5 | 2.7 | 5.1 | 52 | 39 - 66 |
| Sysmex XN-430 | 27 | 54.3 | 3.7 | 6.9 | 54 | 40 - 68 |
| Sysmex XN-550 | 17 | 55.2 | 3.1 | 5.6 | 55 | 41 - 69 |
| Sysmex XS-1000i | 36 | 57.6 | 3.8 | 6.6 | 57 | 43 - 72 |

## HEMATOLOGY W/ 5 or 6-PART DIFFERENTIAL – NEUTROPHILS (percent)

| | Specimen MX-6 | | | | | | Specimen MX-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 110 | 49.91 | 2.02 | 4.1 | 49.6 | 43.8 - 56.0 | 110 | 58.49 | 1.71 | 2.9 | 58.0 | 53.3 - 63.7 |
| All Sysmex XE/XT Instruments | 10 | 52.48 | 0.38 | 0.7 | 52.4 | 51.3 - 53.7 | 10 | 59.94 | 1.82 | 3.0 | 60.0 | 54.4 - 65.5 |
| All Sysmex XN/XS Instruments | 105 | 49.77 | 1.98 | 4.0 | 49.5 | 43.8 - 55.8 | 105 | 58.42 | 1.67 | 2.9 | 58.0 | 53.3 - 63.5 |
| Sysmex XN-1000 | 14 | 51.79 | 1.06 | 2.0 | 52.3 | 48.6 - 55.0 | 14 | 60.69 | 1.33 | 2.2 | 61.1 | 56.6 - 64.7 |
| Sysmex XN-430 | 27 | 48.77 | 1.10 | 2.3 | 48.8 | 45.4 - 52.1 | 27 | 58.05 | 1.08 | 1.9 | 57.7 | 54.8 - 61.3 |
| Sysmex XN-550 | 17 | 51.13 | 4.79 | 9.4 | 49.5 | 36.7 - 65.5 | 17 | 57.46 | 0.85 | 1.5 | 57.7 | 54.9 - 60.1 |
| Sysmex XS-1000i | 36 | 49.87 | 2.72 | 5.5 | 49.5 | 41.6 - 58.1 | 36 | 57.94 | 1.09 | 1.9 | 58.1 | 54.6 - 61.3 |

| | Specimen MX-8 | | | | | | Specimen MX-9 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Method | 110 | 61.08 | 2.02 | 3.3 | 60.9 | 55.0 - 67.2 | 110 | 58.32 | 1.73 | 3.0 | 58.0 | 53.1 - 63.6 |
| All Sysmex XE/XT Instruments | 10 | 64.32 | 1.67 | 2.6 | 64.5 | 59.3 - 69.4 | 10 | 59.38 | 2.29 | 3.9 | 59.0 | 52.5 - 66.3 |
| All Sysmex XN/XS Instruments | 105 | 60.91 | 1.90 | 3.1 | 60.8 | 55.2 - 66.7 | 105 | 58.26 | 1.70 | 2.9 | 58.0 | 53.1 - 63.4 |
| Sysmex XN-1000 | 14 | 62.71 | 0.85 | 1.4 | 62.9 | 60.1 - 65.3 | 14 | 60.76 | 0.73 | 1.2 | 61.0 | 58.5 - 63.0 |
| Sysmex XN-430 | 27 | 60.23 | 1.62 | 2.7 | 60.0 | 55.3 - 65.1 | 27 | 58.00 | 1.75 | 3.0 | 57.7 | 52.7 - 63.3 |
| Sysmex XN-550 | 17 | 60.31 | 1.46 | 2.4 | 59.9 | 55.9 - 64.8 | 17 | 57.74 | 1.69 | 2.9 | 58.0 | 52.6 - 62.9 |
| Sysmex XS-1000i | 36 | 61.15 | 2.00 | 3.3 | 60.9 | 55.1 - 67.2 | 36 | 57.79 | 1.17 | 2.0 | 57.8 | 54.2 - 61.4 |

| | Specimen MX-10 | | | | | |
|---|---|---|---|---|---|---|
| All Method | 110 | 60.89 | 1.97 | 3.2 | 60.5 | 54.9 - 66.9 |
| All Sysmex XE/XT Instruments | 10 | 63.92 | 1.79 | 2.8 | 63.6 | 58.5 - 69.3 |
| All Sysmex XN/XS Instruments | 105 | 60.73 | 1.86 | 3.1 | 60.5 | 55.1 - 66.4 |
| Sysmex XN-1000 | 14 | 62.59 | 1.79 | 2.9 | 63.0 | 57.2 - 68.0 |
| Sysmex XN-430 | 27 | 60.33 | 1.95 | 3.2 | 59.9 | 54.4 - 66.2 |
| Sysmex XN-550 | 17 | 60.16 | 1.71 | 2.8 | 59.9 | 55.0 - 65.3 |
| Sysmex XS-1000i | 36 | 60.66 | 1.46 | 2.4 | 60.5 | 56.2 - 65.1 |

## HEMATOLOGY W/ 5 or 6-PART DIFFERENTIAL – LYMPHOCYTES (percent)

### Specimen MX-6

| *Instrument* | *Labs* | *Mean* | *SD* | *CV* | *Median* | *Range* |
|---|---|---|---|---|---|---|
| All Method | 110 | 28.45 | 2.29 | 8.0 | 28.6 | 21.5 - 35.4 |
| All Sysmex XE/XT Instruments | 10 | 31.20 | 3.69 | 11.8 | 32.6 | 20.1 - 42.3 |
| All Sysmex XN/XS Instruments | 105 | 28.30 | 2.12 | 7.5 | 28.6 | 21.9 - 34.7 |
| Sysmex XN-1000 | 14 | 26.64 | 0.88 | 3.3 | 26.5 | 23.9 - 29.3 |
| Sysmex XN-430 | 27 | 29.31 | 0.97 | 3.3 | 29.4 | 26.3 - 32.3 |
| Sysmex XN-550 | 17 | 29.09 | 0.81 | 2.8 | 29.0 | 26.6 - 31.6 |
| Sysmex XS-1000i | 36 | 27.98 | 3.00 | 10.7 | 28.2 | 18.9 - 37.0 |

### Specimen MX-7

| *Instrument* | *Labs* | *Mean* | *SD* | *CV* | *Median* | *Range* |
|---|---|---|---|---|---|---|
| All Method | 110 | 17.41 | 1.05 | 6.1 | 17.5 | 14.2 - 20.6 |
| All Sysmex XE/XT Instruments | 10 | 22.60 | 3.55 | 15.7 | 22.6 | 11.9 - 33.3 |
| All Sysmex XN/XS Instruments | 105 | 17.49 | 0.75 | 4.3 | 17.5 | 15.2 - 19.8 |
| Sysmex XN-1000 | 14 | 17.58 | 1.51 | 8.6 | 17.1 | 13.0 - 22.2 |
| Sysmex XN-430 | 27 | 17.52 | 0.64 | 3.6 | 17.6 | 15.6 - 19.5 |
| Sysmex XN-550 | 17 | 17.50 | 0.40 | 2.3 | 17.6 | 16.3 - 18.7 |
| Sysmex XS-1000i | 36 | 17.56 | 0.56 | 3.2 | 17.5 | 15.8 - 19.3 |

### Specimen MX-8

| *Instrument* | *Labs* | *Mean* | *SD* | *CV* | *Median* | *Range* |
|---|---|---|---|---|---|---|
| All Method | 110 | 14.21 | 1.97 | 13.9 | 14.5 | 8.2 - 20.2 |
| All Sysmex XE/XT Instruments | 10 | 17.56 | 2.37 | 13.5 | 18.6 | 10.4 - 24.7 |
| All Sysmex XN/XS Instruments | 105 | 14.15 | 1.62 | 11.4 | 14.5 | 9.2 - 19.1 |
| Sysmex XN-1000 | 14 | 15.07 | 1.17 | 7.8 | 14.7 | 11.5 - 18.6 |
| Sysmex XN-430 | 27 | 14.13 | 2.21 | 15.7 | 14.9 | 7.4 - 20.8 |
| Sysmex XN-550 | 17 | 13.82 | 1.86 | 13.5 | 14.2 | 8.2 - 19.4 |
| Sysmex XS-1000i | 36 | 13.37 | 1.92 | 14.4 | 13.3 | 7.6 - 19.2 |

### Specimen MX-9

| *Instrument* | *Labs* | *Mean* | *SD* | *CV* | *Median* | *Range* |
|---|---|---|---|---|---|---|
| All Method | 110 | 17.58 | 1.14 | 6.5 | 17.7 | 14.1 - 21.0 |
| All Sysmex XE/XT Instruments | 10 | 22.64 | 3.10 | 13.7 | 23.3 | 13.3 - 32.0 |
| All Sysmex XN/XS Instruments | 105 | 17.63 | 1.06 | 6.0 | 17.7 | 14.4 - 20.9 |
| Sysmex XN-1000 | 14 | 17.76 | 1.40 | 7.9 | 17.2 | 13.5 - 22.0 |
| Sysmex XN-430 | 27 | 17.87 | 0.90 | 5.0 | 18.1 | 15.1 - 20.6 |
| Sysmex XN-550 | 17 | 17.20 | 2.12 | 12.4 | 17.8 | 10.8 - 23.6 |
| Sysmex XS-1000i | 36 | 17.39 | 1.01 | 5.8 | 17.6 | 14.3 - 20.5 |

### Specimen MX-10

| *Instrument* | *Labs* | *Mean* | *SD* | *CV* | *Median* | *Range* |
|---|---|---|---|---|---|---|
| All Method | 110 | 14.48 | 1.79 | 12.3 | 14.4 | 9.1 - 19.9 |
| All Sysmex XE/XT Instruments | 10 | 17.82 | 2.85 | 16.0 | 18.4 | 9.2 - 26.4 |
| All Sysmex XN/XS Instruments | 105 | 14.49 | 1.47 | 10.1 | 14.4 | 10.0 - 18.9 |
| Sysmex XN-1000 | 14 | 15.21 | 1.80 | 11.8 | 15.2 | 9.8 - 20.7 |
| Sysmex XN-430 | 27 | 14.76 | 1.01 | 6.8 | 15.0 | 11.7 - 17.8 |
| Sysmex XN-550 | 17 | 14.08 | 2.06 | 14.7 | 14.5 | 7.8 - 20.3 |
| Sysmex XS-1000i | 36 | 13.62 | 1.91 | 14.0 | 13.9 | 7.9 - 19.4 |

## HEMATOLOGY W/ 5 or 6-PART DIFFERENTIAL – MONOCYTES (percent)

| | Specimen MX-6 | | | | | | Specimen MX-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 110 | 1.45 | 0.84 | 58.2 | 1.2 | 0.0 - 4.0 | 110 | 0.87 | 0.45 | 51.4 | 0.7 | 0.0 - 2.3 |
| All Sysmex XE/XT Instruments | 10 | 2.22 | 1.01 | 45.3 | 2.0 | 0.0 - 5.3 | 10 | 1.58 | 0.75 | 47.2 | 1.3 | 0.0 - 3.9 |
| All Sysmex XN/XS Instruments | 105 | 1.41 | 0.82 | 58.2 | 1.2 | 0.0 - 3.9 | 105 | 0.83 | 0.40 | 47.7 | 0.7 | 0.0 - 2.1 |
| Sysmex XN-1000 | 14 | 2.46 | 0.93 | 37.8 | 2.5 | 0.0 - 5.3 | 14 | 1.41 | 0.56 | 39.5 | 1.7 | 0.0 - 3.1 |
| Sysmex XN-430 | 27 | 0.96 | 0.35 | 36.7 | 0.9 | 0.0 - 2.1 | 27 | 0.63 | 0.13 | 21.3 | 0.6 | 0.2 - 1.1 |
| Sysmex XN-550 | 17 | 1.24 | 0.38 | 31.0 | 1.1 | 0.0 - 2.4 | 17 | 0.76 | 0.24 | 31.7 | 0.7 | 0.0 - 1.5 |
| Sysmex XS-1000i | 36 | 0.94 | 0.35 | 37.8 | 0.8 | 0.0 - 2.1 | 36 | 0.67 | 0.19 | 28.9 | 0.7 | 0.0 - 1.3 |

| | Specimen MX-8 | | | | | | Specimen MX-9 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Method | 110 | 0.58 | 0.38 | 66.1 | 0.5 | 0.0 - 1.8 | 110 | 0.88 | 0.43 | 48.6 | 0.8 | 0.0 - 2.2 |
| All Sysmex XE/XT Instruments | 10 | 1.20 | 0.48 | 40.4 | 1.3 | 0.0 - 2.7 | 10 | 1.76 | 0.90 | 51.1 | 1.7 | 0.0 - 4.5 |
| All Sysmex XN/XS Instruments | 105 | 0.54 | 0.35 | 63.8 | 0.4 | 0.0 - 1.6 | 105 | 0.86 | 0.41 | 47.7 | 0.7 | 0.0 - 2.1 |
| Sysmex XN-1000 | 14 | 0.84 | 0.45 | 53.8 | 0.9 | 0.0 - 2.3 | 14 | 1.49 | 0.57 | 38.7 | 1.6 | 0.0 - 3.3 |
| Sysmex XN-430 | 27 | 0.30 | 0.10 | 34.3 | 0.3 | 0.0 - 0.7 | 27 | 0.71 | 0.28 | 39.3 | 0.6 | 0.0 - 1.6 |
| Sysmex XN-550 | 17 | 0.62 | 0.46 | 74.3 | 0.3 | 0.0 - 2.1 | 17 | 0.88 | 0.33 | 38.0 | 0.9 | 0.0 - 1.9 |
| Sysmex XS-1000i | 36 | 0.30 | 0.12 | 40.8 | 0.3 | 0.0 - 0.7 | 36 | 0.77 | 0.25 | 31.9 | 0.7 | 0.0 - 1.6 |

| | Specimen MX-10 | | | | | |
|---|---|---|---|---|---|---|
| All Method | 110 | 0.55 | 0.35 | 64.8 | 0.5 | 0.0 - 1.7 |
| All Sysmex XE/XT Instruments | 10 | 1.44 | 0.69 | 48.0 | 1.3 | 0.0 - 3.6 |
| All Sysmex XN/XS Instruments | 105 | 0.50 | 0.29 | 57.3 | 0.5 | 0.0 - 1.4 |
| Sysmex XN-1000 | 14 | 0.82 | 0.46 | 56.3 | 0.8 | 0.0 - 2.3 |
| Sysmex XN-430 | 27 | 0.35 | 0.21 | 59.0 | 0.3 | 0.0 - 1.0 |
| Sysmex XN-550 | 17 | 0.30 | 0.01 | 0.0 | 0.3 | 0.2 - 0.4 |
| Sysmex XS-1000i | 36 | 0.31 | 0.26 | 83.2 | 0.3 | 0.0 - 1.1 |

## HEMATOLOGY W/ 5 or 6-PART DIFFERENTIAL – EOSINOPHILS (percent)

| | Specimen MX-6 | | | | | | Specimen MX-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 110 | 13.42 | 0.75 | 5.6 | 13.4 | 11.1 - 15.7 | 110 | 15.12 | 0.79 | 5.2 | 15.2 | 12.7 - 17.5 |
| All Sysmex XE/XT Instruments | 10 | 12.62 | 0.64 | 5.1 | 12.3 | 10.7 - 14.6 | 10 | 13.78 | 0.96 | 7.0 | 14.3 | 10.8 - 16.7 |
| All Sysmex XN/XS Instruments | 105 | 13.56 | 0.91 | 6.7 | 13.5 | 10.8 - 16.3 | 105 | 15.19 | 0.71 | 4.7 | 15.2 | 13.0 - 17.4 |
| Sysmex XN-1000 | 14 | 14.12 | 0.23 | 1.6 | 14.2 | 13.4 - 14.8 | 14 | 15.20 | 0.56 | 3.7 | 15.3 | 13.5 - 16.9 |
| Sysmex XN-430 | 27 | 13.76 | 1.12 | 8.1 | 13.5 | 10.4 - 17.2 | 27 | 15.71 | 0.62 | 3.9 | 15.7 | 13.8 - 17.6 |
| Sysmex XN-550 | 17 | 13.49 | 0.43 | 3.2 | 13.6 | 12.1 - 14.8 | 17 | 15.76 | 0.51 | 3.3 | 15.9 | 14.2 - 17.3 |
| Sysmex XS-1000i | 36 | 13.12 | 0.91 | 6.9 | 12.9 | 10.3 - 15.9 | 36 | 14.61 | 0.45 | 3.1 | 14.6 | 13.2 - 16.0 |

| | Specimen MX-8 | | | | | | Specimen MX-9 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Method | 110 | 15.99 | 0.82 | 5.1 | 16.0 | 13.5 - 18.5 | 110 | 15.11 | 0.68 | 4.5 | 15.0 | 13.0 - 17.2 |
| All Sysmex XE/XT Instruments | 10 | 15.28 | 0.60 | 3.9 | 15.1 | 13.4 - 17.1 | 10 | 14.06 | 0.64 | 4.5 | 14.2 | 12.1 - 16.0 |
| All Sysmex XN/XS Instruments | 105 | 16.03 | 0.82 | 5.1 | 16.0 | 13.5 - 18.5 | 105 | 15.17 | 0.63 | 4.2 | 15.2 | 13.2 - 17.1 |
| Sysmex XN-1000 | 14 | 16.26 | 0.59 | 3.6 | 16.4 | 14.5 - 18.1 | 14 | 15.11 | 0.61 | 4.0 | 15.1 | 13.2 - 17.0 |
| Sysmex XN-430 | 27 | 16.33 | 0.67 | 4.1 | 16.2 | 14.3 - 18.4 | 27 | 15.47 | 0.63 | 4.1 | 15.4 | 13.5 - 17.4 |
| Sysmex XN-550 | 17 | 16.37 | 0.75 | 4.6 | 16.4 | 14.1 - 18.7 | 17 | 15.52 | 0.65 | 4.2 | 15.5 | 13.5 - 17.5 |
| Sysmex XS-1000i | 36 | 16.17 | 2.12 | 13.1 | 15.8 | 9.7 - 22.6 | 36 | 14.78 | 0.66 | 4.5 | 14.7 | 12.7 - 16.8 |

| | Specimen MX-10 | | | | | |
|---|---|---|---|---|---|---|
| All Method | 110 | 15.96 | 0.77 | 4.9 | 16.1 | 13.6 - 18.3 |
| All Sysmex XE/XT Instruments | 10 | 15.24 | 0.63 | 4.1 | 15.0 | 13.3 - 17.2 |
| All Sysmex XN/XS Instruments | 105 | 16.00 | 0.77 | 4.8 | 16.1 | 13.7 - 18.3 |
| Sysmex XN-1000 | 14 | 16.33 | 0.38 | 2.3 | 16.3 | 15.2 - 17.5 |
| Sysmex XN-430 | 27 | 16.45 | 0.67 | 4.1 | 16.6 | 14.4 - 18.5 |
| Sysmex XN-550 | 17 | 16.14 | 0.82 | 5.1 | 16.3 | 13.6 - 18.6 |
| Sysmex XS-1000i | 36 | 15.51 | 0.67 | 4.3 | 15.5 | 13.5 - 17.6 |

## HEMATOLOGY W/ 5 or 6-PART DIFFERENTIAL – BASOPHILS (percent)

### Specimen MX-6

| *Instrument* | *Labs* | *Mean* | *SD* | *CV* | *Median* | *Range* |
|---|---|---|---|---|---|---|
| All Method | 110 | 7.22 | 1.13 | 15.7 | 7.4 | 3.8 - 10.7 |
| All Sysmex XE/XT Instruments | 10 | 74.74 | 2.75 | 3.7 | 73.9 | 66.4 - 83.0 |
| All Sysmex XN/XS Instruments | 105 | 7.15 | 1.18 | 16.5 | 7.4 | 3.6 - 10.7 |
| Sysmex XN-1000 | 14 | 4.71 | 0.19 | 4.1 | 4.7 | 4.1 - 5.3 |
| Sysmex XN-430 | 27 | 7.48 | 0.43 | 5.8 | 7.5 | 6.1 - 8.8 |
| Sysmex XN-550 | 17 | 7.18 | 0.45 | 6.2 | 7.1 | 5.8 - 8.6 |
| Sysmex XS-1000i | 36 | 7.84 | 0.65 | 8.2 | 7.8 | 5.9 - 9.8 |

### Specimen MX-7

| *Instrument* | *Labs* | *Mean* | *SD* | *CV* | *Median* | *Range* |
|---|---|---|---|---|---|---|
| All Method | 110 | 8.40 | 1.33 | 15.8 | 8.5 | 4.4 - 12.4 |
| All Sysmex XE/XT Instruments | 10 | 84.76 | 2.59 | 3.1 | 83.5 | 76.9 - 92.6 |
| All Sysmex XN/XS Instruments | 105 | 8.22 | 1.61 | 19.6 | 8.6 | 3.3 - 13.1 |
| Sysmex XN-1000 | 14 | 4.75 | 0.12 | 2.5 | 4.7 | 4.3 - 5.2 |
| Sysmex XN-430 | 27 | 8.45 | 0.65 | 7.7 | 8.4 | 6.5 - 10.5 |
| Sysmex XN-550 | 17 | 8.69 | 0.70 | 8.0 | 8.7 | 6.6 - 10.8 |
| Sysmex XS-1000i | 36 | 9.14 | 0.71 | 7.7 | 9.1 | 7.0 - 11.3 |

### Specimen MX-8

| *Instrument* | *Labs* | *Mean* | *SD* | *CV* | *Median* | *Range* |
|---|---|---|---|---|---|---|
| All Method | 110 | 8.77 | 1.53 | 17.5 | 8.8 | 4.1 - 13.4 |
| All Sysmex XE/XT Instruments | 10 | 85.60 | 1.29 | 1.5 | 85.2 | 81.7 - 89.5 |
| All Sysmex XN/XS Instruments | 105 | 8.49 | 1.76 | 20.8 | 8.8 | 3.2 - 13.8 |
| Sysmex XN-1000 | 14 | 4.80 | 0.21 | 4.4 | 4.8 | 4.1 - 5.5 |
| Sysmex XN-430 | 27 | 8.89 | 0.73 | 8.3 | 8.7 | 6.6 - 11.1 |
| Sysmex XN-550 | 17 | 8.87 | 0.94 | 10.6 | 8.7 | 6.0 - 11.7 |
| Sysmex XS-1000i | 36 | 9.40 | 0.92 | 9.8 | 9.5 | 6.6 - 12.2 |

### Specimen MX-9

| *Instrument* | *Labs* | *Mean* | *SD* | *CV* | *Median* | *Range* |
|---|---|---|---|---|---|---|
| All Method | 110 | 8.29 | 1.34 | 16.2 | 8.4 | 4.2 - 12.4 |
| All Sysmex XE/XT Instruments | 10 | 85.60 | 2.59 | 3.0 | 85.8 | 77.8 - 93.4 |
| All Sysmex XN/XS Instruments | 105 | 8.21 | 1.60 | 19.5 | 8.4 | 3.4 - 13.1 |
| Sysmex XN-1000 | 14 | 4.84 | 0.10 | 2.0 | 4.8 | 4.5 - 5.2 |
| Sysmex XN-430 | 27 | 8.47 | 0.58 | 6.8 | 8.4 | 6.7 - 10.3 |
| Sysmex XN-550 | 17 | 8.51 | 0.71 | 8.3 | 8.3 | 6.3 - 10.7 |
| Sysmex XS-1000i | 36 | 9.20 | 0.79 | 8.6 | 9.3 | 6.8 - 11.6 |

### Specimen MX-10

| *Instrument* | *Labs* | *Mean* | *SD* | *CV* | *Median* | *Range* |
|---|---|---|---|---|---|---|
| All Method | 110 | 8.73 | 1.49 | 17.0 | 8.7 | 4.2 - 13.2 |
| All Sysmex XE/XT Instruments | 10 | 86.20 | 0.61 | 0.7 | 86.2 | 84.3 - 88.1 |
| All Sysmex XN/XS Instruments | 105 | 8.50 | 1.74 | 20.5 | 8.8 | 3.2 - 13.8 |
| Sysmex XN-1000 | 14 | 4.73 | 0.13 | 2.6 | 4.8 | 4.3 - 5.2 |
| Sysmex XN-430 | 27 | 8.77 | 0.74 | 8.4 | 8.5 | 6.5 - 11.0 |
| Sysmex XN-550 | 17 | 9.16 | 0.83 | 9.0 | 9.3 | 6.6 - 11.7 |
| Sysmex XS-1000i | 36 | 9.47 | 0.70 | 7.4 | 9.5 | 7.3 - 11.6 |

## HEMATOLOGY W/ 5 or 6-PART DIFFERENTIAL – Immature Granulocytes (percent)

| | Specimen MX-6 | | | | | | Specimen MX-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 56 | 13.31 | 0.78 | 5.9 | 13.2 | 10.9 - 15.7 | 59 | 15.51 | 0.78 | 5.0 | 15.5 | 13.1 - 17.9 |
| All Sysmex XN/XS Instruments | 54 | 13.32 | 0.73 | 5.5 | 13.2 | 11.1 - 15.6 | 57 | 15.52 | 0.78 | 5.0 | 15.5 | 13.1 - 17.9 |
| Sysmex XN-1000 | 12 | 13.16 | 0.58 | 4.4 | 13.2 | 11.4 - 14.9 | 12 | 15.29 | 0.61 | 4.0 | 15.5 | 13.4 - 17.2 |
| Sysmex XN-430 | 21 | 13.68 | 1.27 | 9.3 | 13.4 | 9.8 - 17.5 | 21 | 15.62 | 0.85 | 5.5 | 15.7 | 13.0 - 18.2 |
| Sysmex XN-550 | 13 | 13.36 | 1.01 | 7.6 | 13.0 | 10.3 - 16.4 | 14 | 15.59 | 0.88 | 5.7 | 15.4 | 12.9 - 18.3 |
| | **Specimen MX-8** | | | | | | **Specimen MX-9** | | | | | |
| All Method | 59 | 16.15 | 0.89 | 5.5 | 16.0 | 13.4 - 18.9 | 59 | 15.38 | 0.65 | 4.2 | 15.3 | 13.4 - 17.4 |
| All Sysmex XN/XS Instruments | 57 | 16.15 | 0.89 | 5.5 | 16.0 | 13.4 - 18.9 | 57 | 15.38 | 0.65 | 4.2 | 15.3 | 13.4 - 17.4 |
| Sysmex XN-1000 | 12 | 15.68 | 0.72 | 4.6 | 15.7 | 13.5 - 17.9 | 12 | 15.06 | 0.51 | 3.4 | 15.3 | 13.5 - 16.6 |
| Sysmex XN-430 | 21 | 16.33 | 0.84 | 5.2 | 16.4 | 13.8 - 18.9 | 21 | 15.44 | 0.65 | 4.2 | 15.3 | 13.4 - 17.4 |
| Sysmex XN-550 | 14 | 16.37 | 0.92 | 5.6 | 16.1 | 13.6 - 19.2 | 14 | 15.49 | 0.62 | 4.0 | 15.5 | 13.6 - 17.4 |
| | **Specimen MX-10** | | | | | | | | | | | |
| All Method | 59 | 16.29 | 1.04 | 6.4 | 16.3 | 13.1 - 19.5 | | | | | | |
| All Sysmex XN/XS Instruments | 57 | 16.31 | 0.97 | 5.9 | 16.3 | 13.4 - 19.3 | | | | | | |
| Sysmex XN-1000 | 12 | 15.97 | 0.67 | 4.2 | 15.9 | 13.9 - 18.0 | | | | | | |
| Sysmex XN-430 | 21 | 16.40 | 1.16 | 7.1 | 16.4 | 12.9 - 19.9 | | | | | | |
| Sysmex XN-550 | 14 | 16.53 | 0.89 | 5.4 | 16.8 | 13.8 - 19.2 | | | | | | |

**2019 M2**
**Specimens BC-7 through BC-12**

## CASE HISTORY:

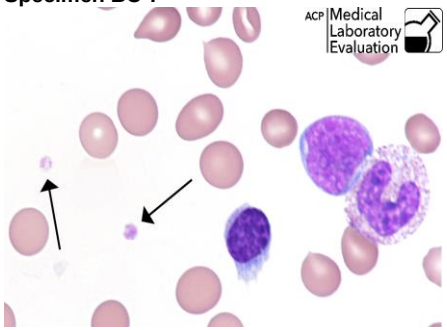
A 4-year-old female was brought to the emergency department by her parents. The patient had abdominal pain, nausea, vomiting, and loose, watery stools. Upon physical examination, the patient appeared ill, dehydrated, lethargic, and febrile. A CBC was performed, and the results appear below.

| TEST | RESULTS | REFERENCE RANGE |
|---|---|---|
| WBC | 3.0 x $10^9$/L | 5 - 17 x $10^9$/L |
| RBC | 3.8 x $10^{12}$/L | 4.0 - 5.2 x $10^{12}$/L |
| HGB | 9.9 g/dL | 10.2 - 15.2 g/dL |
| HCT | 30 % | 34 - 48 % |
| MCV | 79 fL | 78 - 94 fL |
| MCH | 26 pg | 23 - 31 pg |
| MCHC | 33 g/dL | 32 - 36 g/dL |
| RDW | 19 % | 11 - 15 % |
| PLT | 85 x $10^9$/L | 150 - 450 x $10^9$/L |

**This patient was diagnosed with acute lymphoblastic leukemia and septicemia**. Acute lymphoblastic leukemia (ALL) is the most common cancer in children, and accounts for about 20% of acute leukemias in adults. In ALL, the bone marrow produces too many lymphoblasts. These abnormal cells do not develop into mature lymphocytes or function as normal lymphocytes. Patients with ALL are at risk for blood stream infections due to neutropenia and decreased immunoglobulins. Lymphoblasts crowd the bone marrow, leaving less room for normal blood cells to develop. Decreased neutrophil production increases the risk of infection and fever. Decreased red blood cell production leads to anemia and symptoms including fatigue. Decreased platelet production causes bruising and bleeding. There may be enlargement of the lymph nodes, spleen, and liver. Bone pain is a common symptom often overlooked by providers who attribute it to "growing pains." Bone pain, joint pain, and headaches may be symptoms of lymphoblast infiltration into those areas. Different subgroups of ALL are based on the age of the patient, cell type, and chromosomal changes. Flow cytometry is used to analyze antigens on the malignant cells. This analysis, called immunophenotyping, helps to determine the patient's prognosis and course of treatment.

**BLOOD CELL IDENTIFICATION**

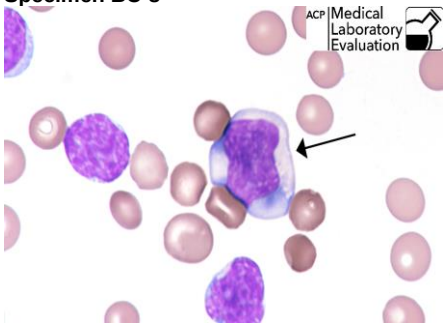
**Specimen BC-7**




| Identification | Labs | Percent | Performance |
|---|---|---|---|
| Platelet, normal | 162 | 100% | Acceptable |

The arrows in this photograph point to **normal platelets**. Normal platelets are much smaller than red blood cells, measuring 2-4 microns. They are round to elliptical in shape. They generally have a central area packed with red to violet colored granules, and a clear blue area that surrounds the granules. To view another photo of normal platelets, see 2018 M3 BC-16.

**Specimen BC-8**

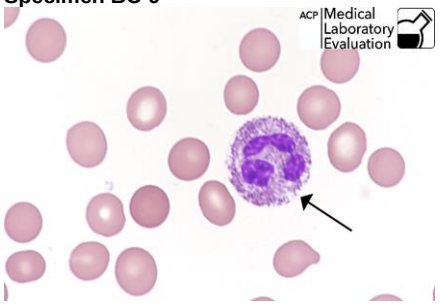



| Identification | Labs | Percent | Performance |
|---|---|---|---|
| Lymphocyte, reactive | 111 | 68.94% | Acceptable |
| Immature/abnormal cell – refer | 33 | 20.50% | Acceptable |
| Monocyte | 13 | 8.07% | |

The arrow in this photograph points to **a reactive lymphocyte.** Reactive lymphs come in a wide range of forms, sizes, and shapes. These large, atypical lymphocytes respond to immune stimuli in the body. The nucleus is large and appears elongated or stretched. The cytoplasm of the reactive lymph is light blue, with characteristic peripheral basophilia (darker blue color) at the extreme border. This particular cell also has very distinct radial basophilia, which is sometimes seen in reactive lymphocytes in addition to peripheral basophilia. The cytoplasm of the reactive lymph is indented by adjacent red cells and tends to flow around them. In contrast, monocytes have grayer cytoplasm and lack peripheral basophilia, and monos tend to have pseudopods that appear to push away nearby red cells. The monocyte nucleus is often folded, is lighter-staining than that of the lymph, and has a more open, lacy, chromatin structure. To view another photo of a reactive lymphocyte, see 2018 M2 Specimen BC-9. To view a monocyte, see 2019 M1 Specimen BC-1.

.

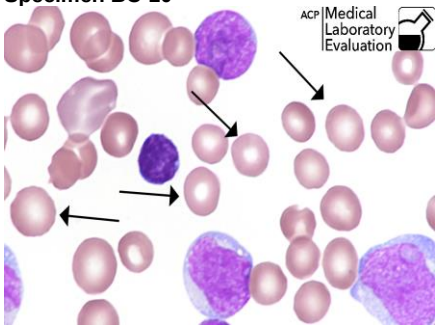
**Specimen BC-9**




| Identification | Labs | Percent | Performance |
|---|---|---|---|
| Neutrophil-seg//band w/toxic | 135 | 83.33% | Acceptable |
| Neutrophil-Segmented or band | 26 | 16.05% | |

The arrow in this photograph points to a segmented neutrophil with **toxic granulation**. The cytoplasm of cells with toxic granulation contains small, coarse, dark purple granules. Toxic granulation is a sign that the patient has a serious infection or other toxic condition. In contrast, normal neutrophils primarily have fine, smooth, pink granules. Basophils contain much larger purple-black granules, which can cover part of the cell's nucleus and protrude from the cytoplasmic edge. To view another photo of a neutrophil with toxic granulation, see 2017 M3 Specimen BC-15. To view a basophil, see 2018 M3 Specimen BC-14.

**Specimen BC-10**

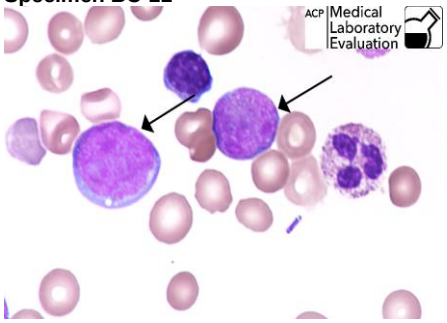



| Identification | Labs | Percent | Performance |
|---|---|---|---|
| Erythrocyte, normal | 134 | 82.72% | Acceptable |
| Hypochromic red cell | 15 | 9.26% | |
| Macrocyte | 9 | 5.56% | |

The arrows in this photograph point to **normal erythrocytes** (red blood cells.) The arrowed cells are approximately the same size as the nucleus of the mature, resting lymphocyte nearby. In a normochromic cell, the area of central pallor takes up about one third of the diameter of the cell. To view another photo of normal red cells, see 2018 M3 Specimen BC-17. To view a photo of hypochromic red cells, see 2018 M1 Specimen BC-5.

## BLOOD CELL IDENTIFICATION

**Specimen BC-11**

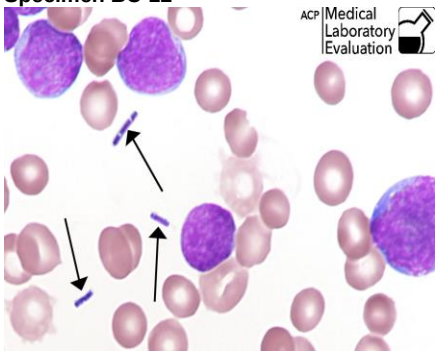



| Identification | Labs | Percent | Performance |
|---|---|---|---|
| Immature/abnormal cell – refer | 83 | 51.55% | Acceptable |
| Blast cell | 65 | 40.37% | Acceptable |
| Prolymphocyte | 8 | 4.97% | |

The arrows in this photograph point to **blast cells,** specifically lymphoblasts. Lymphoblasts are the precursor cells to lymphocytes. Blasts seen in the peripheral blood are always an abnormal finding. The blast stage is the earliest stage of white blood cell development, and is normally found only in the bone marrow. Blast cells have a high ratio of nucleus to cytoplasm, and the cytoplasm is deeply basophilic. The round-oval nucleus of the lymphoblast may have a cleft. Compared to reactive lymphs, blasts have less variation in size and staining characteristics, and far less cytoplasm. To view another photo of a blast cell, see 2016 M3 Specimen BC-18.

## BLOOD CELL IDENTIFICATION

**Specimen BC-12**




| Identification | Labs | Percent | Performance |
|---|---|---|---|
| Bacteria, extracellular | 134 | 82.72% | Not graded – Educational Challenge |
| Immature/abnormal cell-refer | 25 | 15.43% | |
| Fungi | 3 | 1.85% | |

The arrows in this ungraded educational challenge point to **extracellular bacteria.** These rod-shaped organisms are most likely to be gram negative bacilli of enteric origin. Common pathogens associated with abdominal distress in ALL patients include Pseudomonas aeruginosa, Escherichia coli, Klebsiella pneumoniae, and Salmonella species. Although they appear purple in this Wright stained preparation, these bacteria might appear pink if they were Gram stained. Although bacteria and parasites are rarely seen in a peripheral blood smear, it is crucial that laboratorians be on the lookout for organisms in and around the cells, as this is a critical finding. To view a photo of intracellular bacteria, see 2007 M1 Specimen BC-6. To view a photo of intracellular and extracellular fungi, see 2018 M2 Specimen BC-12.

**References:**

Carr, J.H., Rodak, B.F.: *Clinical Hematology Atlas, 3rd ed.* Saunders, St. Louis, 2009.

Larson, R.A. "Acute Leukemia." *ACP Medicine.* Ed. D. C. Dale. New York: WebMD, Inc., 2004. 2503.

O'Connor O'Connor, B. H.: *A Color Atlas and Instruction Manual of Peripheral Blood Cell Morphology.* Williams & Wilkins, Baltimore MD, 1984.

PDQ® Pediatric Treatment Editorial Board. PDQ Childhood Acute Lymphoblastic Leukemia Treatment. Bethesda, MD: National Cancer Institute. Updated 04/26/2019. Available at: https://www.cancer.gov/types/leukemia/patient/child-all-treatment-pdq. Accessed 06/26/2019. [PMID: 26389385]

## BLOOD BANK

### ABO GROUP

| Specimen | Results | Labs | Percent | Performance |
|---|---|---|---|---|
| BB-6 | Group B | 5 | 100% | Acceptable |
| BB-7 | Group A | 5 | 100% | Acceptable |
| BB-8 | Group O | 5 | 100% | Acceptable |
| BB-9 | Group A | 5 | 100% | Acceptable |
| BB-10 | Group O | 5 | 100% | Acceptable |

### RH FACTOR (D TYPE)

| Specimen | Results | Labs | Percent | Performance |
|---|---|---|---|---|
| BB-6 | Rh Negative | 17 | 100% | Acceptable |
| BB-7 | Rh Negative | 16 | 94.12% | Acceptable |
| | Rh Positive | 1 | 5.88% | |
| BB-8 | Rh Positive | 17 | 100% | Acceptable |
| BB-9 | Rh Positive | 17 | 100% | Acceptable |
| BB-10 | Rh Positive | 17 | 100% | Acceptable |

The specimen BB-7 is graded to 100% referee consensus.

### UNEXPECTED ANTIBODY DETECTION

| Specimen | Results | Labs | Percent | Performance |
|---|---|---|---|---|
| AB-6 | No unexpected antibody detected | 5 | 100% | Acceptable |
| AB-7 | Unexpected antibody detected | 5 | 100% | Acceptable |
| AB-8 | No unexpected antibody detect | 5 | 100% | Acceptable |
| AB-9 | No unexpected antibody detected | 5 | 100% | Acceptable |
| AB-10 | No unexpected antibody detected | 5 | 100% | Acceptable |

## BLOOD BANK

### ANTIBODY IDENTIFICATION

| Specimen | Results | Labs | Percent | Performance |
|---|---|---|---|---|
| AB-6 | No antibody detected | 1 | 100% | Acceptable |
| AB-7 | Anti-D | 1 | 100% | Acceptable |
| AB-8 | No antibody detected | 1 | 100% | Acceptable |
| AB-9 | No antibody detected | 1 | 100% | Acceptable |
| AB-10 | Anti-K | 1 | 100% | Acceptable |

### COMPATIBILITY TESTING

| Specimen | Results | Labs | Percent | Performance |
|---|---|---|---|---|
| AB-6 | Compatible | 3 | 100% | Acceptable |
| AB-7 | Not Compatible | 3 | 100% | Acceptable |
| AB-8 | Compatible | 3 | 100% | Acceptable |
| AB-9 | Compatible | 3 | 100% | Acceptable |
| AB-10 | Compatible | 3 | 100% | Acceptable |

## PROTHROMBIN TIME (seconds)

| Reagent/Instrument | Specimen CG-6 Labs | Mean | SD | CV | Median | Range | Specimen CG-7 Labs | Mean | SD | CV | Median | Range |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Method | 34 | 11.46 | 0.84 | 7.4 | 11.3 | 9.7 - 13.2 | 34 | 10.93 | 1.11 | 10.2 | 10.5 | 9.2 - 12.6 |
| Dade Innovin | | | | | | | | | | | | |
| Dade Behring BFT II | 5 | 10.40 | 0.27 | 2.6 | 10.5 | 8.8 - 12.0 | 5 | 9.55 | 0.17 | 1.8 | 9.6 | 8.1 - 11.0 |
| Sysmex CA-500/600 series | 13 | 11.17 | 0.22 | 1.9 | 11.1 | 9.4 - 12.9 | 13 | 10.51 | 0.19 | 1.8 | 10.4 | 8.9 - 12.1 |
| All Coagulation Instruments | 19 | 10.99 | 0.39 | 3.6 | 11.0 | 9.3 - 12.7 | 19 | 10.29 | 0.45 | 4.3 | 10.4 | 8.7 - 11.9 |
| HemosIL RecombiPlasTin 2G | | | | | | | | | | | | |
| IL ACL, all models | 5 | 11.90 | 0.28 | 2.4 | 11.9 | 10.1 - 13.7 | 5 | 11.80 | 0.14 | 1.2 | 11.8 | 10.0 - 13.6 |
| IL TEST PT Fibrinogen | | | | | | | | | | | | |
| IL ACL, all models | 5 | 12.80 | 0.62 | 4.9 | 12.6 | 10.8 - 14.8 | 5 | 12.68 | 0.98 | 7.7 | 12.4 | 10.7 - 14.6 |

| Reagent/Instrument | Specimen CG-8 Labs | Mean | SD | CV | Median | Range | Specimen CG-9 Labs | Mean | SD | CV | Median | Range |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Method | 34 | 13.97 | 0.96 | 6.9 | 13.7 | 11.8 - 16.1 | 34 | 31.56 | 4.20 | 13.3 | 32.0 | 26.8 - 36.3 |
| Dade Innovin | | | | | | | | | | | | |
| Dade Behring BFT II | 5 | 13.08 | 0.29 | 2.2 | 13.0 | 11.1 - 15.1 | 5 | 35.13 | 1.72 | 4.9 | 35.8 | 29.8 - 40.4 |
| Sysmex CA-500/600 series | 13 | 13.58 | 0.25 | 1.8 | 13.7 | 11.5 - 15.7 | 13 | 31.84 | 1.31 | 4.1 | 32.0 | 27.0 - 36.7 |
| All Coagulation Instruments | 19 | 13.43 | 0.35 | 2.6 | 13.5 | 11.4 - 15.5 | 19 | 32.76 | 2.01 | 6.1 | 32.7 | 27.8 - 37.7 |
| HemosIL RecombiPlasTin 2G | | | | | | | | | | | | |
| IL ACL, all models | 5 | 15.05 | 0.21 | 1.4 | 15.1 | 12.7 - 17.4 | 5 | 39.05 | 1.20 | 3.1 | 39.1 | 33.1 - 45.0 |
| IL TEST PT Fibrinogen | | | | | | | | | | | | |
| IL ACL, all models | 5 | 15.35 | 0.98 | 6.4 | 15.0 | 13.0 - 17.7 | 5 | 26.28 | 0.94 | 3.6 | 26.1 | 22.3 - 30.3 |

| Reagent/Instrument | Specimen CG-10 Labs | Mean | SD | CV | Median | Range |
|---|---|---|---|---|---|---|
| All Method | 34 | 22.50 | 2.38 | 10.6 | 22.2 | 19.1 - 25.9 |
| Dade Innovin | | | | | | |
| Dade Behring BFT II | 5 | 25.28 | 1.76 | 6.9 | 25.3 | 21.4 - 29.1 |
| Sysmex CA-500/600 series | 13 | 22.14 | 1.54 | 7.0 | 22.0 | 18.8 - 25.5 |
| All Coagulation Instruments | 19 | 22.89 | 2.00 | 8.7 | 22.5 | 19.4 - 26.4 |
| HemosIL RecombiPlasTin 2G | | | | | | |
| IL ACL, all models | 5 | 26.10 | 0.85 | 3.3 | 26.1 | 22.1 - 30.1 |
| IL TEST PT Fibrinogen | | | | | | |
| IL ACL, all models | 5 | 20.95 | 0.98 | 4.7 | 20.9 | 17.8 - 24.1 |

## PROTHROMBIN TIME–INTERNATIONAL NORMALIZED RATIO (INR)

| Reagent/Instrument | Specimen CG-6 Labs | Mean | SD | CV | Median | Range | Specimen CG-7 Labs | Mean | SD | CV | Median | Range |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Method | 34 | 1.11 | 0.08 | 7.2 | 1.1 | 0.8 - 1.4 | 34 | 1.04 | 0.07 | 6.2 | 1.0 | 0.8 - 1.3 |
| Dade Innovin | | | | | | | | | | | | |
| Dade Behring BFT II | 5 | 1.15 | 0.06 | 5.0 | 1.2 | 0.9 - 1.4 | 5 | 1.08 | 0.05 | 4.7 | 1.1 | 0.8 - 1.3 |
| Sysmex CA-500/600 series | 13 | 1.09 | 0.06 | 5.9 | 1.1 | 0.8 - 1.4 | 13 | 1.03 | 0.06 | 6.1 | 1.0 | 0.8 - 1.3 |
| All Coagulation Instruments | 19 | 1.11 | 0.06 | 5.8 | 1.1 | 0.8 - 1.4 | 19 | 1.04 | 0.06 | 5.8 | 1.0 | 0.8 - 1.3 |
| HemosIL RecombiPlasTin 2G | | | | | | | | | | | | |
| IL ACL, all models | 5 | 1.05 | 0.07 | 6.7 | 1.1 | 0.8 - 1.3 | 5 | 1.05 | 0.07 | 6.7 | 1.1 | 0.8 - 1.3 |
| IL TEST PT Fibrinogen | | | | | | | | | | | | |
| IL ACL, all models | 5 | 1.15 | 0.13 | 11.2 | 1.2 | 0.9 - 1.4 | 5 | 1.13 | 0.19 | 16.8 | 1.1 | 0.9 - 1.4 |

| Reagent/Instrument | Specimen CG-8 Labs | Mean | SD | CV | Median | Range | Specimen CG-9 Labs | Mean | SD | CV | Median | Range |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All Method | 34 | 1.37 | 0.07 | 5.0 | 1.4 | 1.0 - 1.7 | 34 | 3.47 | 0.39 | 11.3 | 3.3 | 2.7 - 4.2 |
| Dade Innovin | | | | | | | | | | | | |
| Dade Behring BFT II | 5 | 1.43 | 0.05 | 3.5 | 1.4 | 1.1 - 1.8 | 5 | 3.30 | 0.08 | 2.5 | 3.3 | 2.6 - 4.0 |
| Sysmex CA-500/600 series | 13 | 1.34 | 0.05 | 3.8 | 1.3 | 1.0 - 1.7 | 13 | 3.21 | 0.15 | 4.7 | 3.2 | 2.5 - 3.9 |
| All Coagulation Instruments | 19 | 1.36 | 0.06 | 4.5 | 1.4 | 1.0 - 1.7 | 19 | 3.26 | 0.19 | 5.9 | 3.3 | 2.6 - 4.0 |
| HemosIL RecombiPlasTin 2G | | | | | | | | | | | | |
| IL ACL, all models | 5 | 1.35 | 0.07 | 5.2 | 1.4 | 1.0 - 1.7 | 5 | 3.65 | 0.21 | 5.8 | 3.7 | 2.9 - 4.4 |
| IL TEST PT Fibrinogen | | | | | | | | | | | | |
| IL ACL, all models | 5 | 1.58 | 0.22 | 14.1 | 1.5 | 1.2 - 1.9 | 5 | 4.13 | 0.31 | 7.5 | 4.2 | 3.3 - 5.0 |

| Reagent/Instrument | Specimen CG-10 Labs | Mean | SD | CV | Median | Range |
|---|---|---|---|---|---|---|
| All Method | 34 | 2.38 | 0.28 | 11.6 | 2.4 | 1.9 - 2.9 |
| Dade Innovin | | | | | | |
| Dade Behring BFT II | 5 | 2.53 | 0.10 | 3.8 | 2.6 | 2.0 - 3.1 |
| Sysmex CA-500/600 series | 13 | 2.22 | 0.20 | 9.0 | 2.1 | 1.7 - 2.7 |
| All Coagulation Instruments | 19 | 2.29 | 0.22 | 9.5 | 2.2 | 1.8 - 2.8 |
| HemosIL RecombiPlasTin 2G | | | | | | |
| IL ACL, all models | 5 | 2.40 | 0.14 | 5.9 | 2.4 | 1.9 - 2.9 |
| IL TEST PT Fibrinogen | | | | | | |
| IL ACL, all models | 5 | 2.75 | 0.34 | 12.4 | 2.7 | 2.2 - 3.3 |

## ACTIVATED PARTIAL THROMBOPLASTIN (seconds)

| Reagent/Instrument | Labs | Mean | SD | CV | Median | Range | Labs | Mean | SD | CV | Median | Range |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Specimen CG-6** | | | | | | **Specimen CG-7** | | | | | |
| All Method | 13 | 28.6 | 5.8 | 20.1 | 25 | 24 - 33 | 13 | 24.6 | 1.7 | 7.0 | 24 | 20 - 29 |
| Dade Actin FSL | | | | | | | | | | | | |
| Sysmex CA-500/600 series | 6 | 24.5 | 0.5 | 2.2 | 25 | 20 - 29 | 6 | 23.3 | 0.5 | 2.2 | 23 | 19 - 27 |
| Hemoliance SynthASil | | | | | | | | | | | | |
| IL ACL, all models | 5 | 38.0 | 1.4 | 3.7 | 38 | 32 - 44 | 5 | 26.5 | 0.7 | 2.7 | 27 | 22 - 31 |
| | **Specimen CG-8** | | | | | | **Specimen CG-9** | | | | | |
| All Method | 13 | 32.0 | 5.1 | 16.0 | 29 | 27 - 37 | 13 | 44.9 | 2.7 | 6.0 | 44 | 38 - 52 |
| Dade Actin FSL | | | | | | | | | | | | |
| Sysmex CA-500/600 series | 6 | 28.3 | 0.5 | 1.8 | 28 | 24 - 33 | 6 | 43.8 | 1.5 | 3.4 | 44 | 37 - 51 |
| Hemoliance SynthASil | | | | | | | | | | | | |
| IL ACL, all models | 5 | 35.0 | 0.1 | 0.0 | 35 | 29 - 41 | 5 | 49.5 | 0.7 | 1.4 | 50 | 42 - 57 |
| | **Specimen CG-10** | | | | | | | | | | | |
| All Method | 13 | 36.8 | 2.1 | 5.7 | 36 | 31 - 43 | | | | | | |
| Dade Actin FSL | | | | | | | | | | | | |
| Sysmex CA-500/600 series | 6 | 36.0 | 0.9 | 2.5 | 36 | 30 - 42 | | | | | | |
| Hemoliance SynthASil | | | | | | | | | | | | |
| IL ACL, all models | 5 | 40.5 | 0.7 | 1.7 | 41 | 34 - 47 | | | | | | |

## Fibrinogen (mg/dL)

One participant reported Fibrinogen. The vendor assay values on a Sysmex CA-540 for specimens CG-6 through CG-10 are: 350 mg/dL, 220 mg/dL, 105 mg/dL, 197 mg/dL, and 194 mg/dL, respectively.

## COAGUCHEK XS PLUS PROTHROMBIN TIME (seconds)

| | Specimen XS-6 | | | | | | Specimen XS-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 24 | 36.54 | 1.60 | 4.4 | 36.8 | 31.0 - 42.1 | 24 | 25.24 | 0.94 | 3.7 | 25.1 | 21.4 - 29.1 |
| All Roche CoaguChek XS Plus Instruments | 22 | 36.44 | 1.59 | 4.4 | 36.5 | 30.9 - 42.0 | 22 | 25.19 | 0.95 | 3.8 | 25.0 | 21.4 - 29.0 |
| Roche CoaguChek XS Plus - Waived | 11 | 36.47 | 1.52 | 4.2 | 36.2 | 31.0 - 42.0 | 11 | 25.15 | 0.97 | 3.9 | 24.9 | 21.3 - 29.0 |
| Roche CoaguChek XS Plus | 10 | 36.38 | 1.86 | 5.1 | 37.1 | 30.9 - 41.9 | 10 | 25.27 | 0.97 | 3.9 | 25.5 | 21.4 - 29.1 |
| | **Specimen XS-8** | | | | | | **Specimen XS-9** | | | | | |
| All Method | 17 | 13.78 | 0.34 | 2.5 | 13.9 | 11.7 - 15.9 | 17 | 25.43 | 1.30 | 5.1 | 24.7 | 21.6 - 29.3 |
| All Roche CoaguChek XS Plus Instruments | 16 | 13.76 | 0.36 | 2.6 | 13.8 | 11.6 - 15.9 | 16 | 25.31 | 1.33 | 5.3 | 24.7 | 21.5 - 29.2 |
| Roche CoaguChek XS Plus - Waived | 9 | - | - | - | 13.9 | 11.6 - 15.9 | 9 | - | - | - | 24.6 | 21.5 - 29.2 |
| Roche CoaguChek XS Plus | 7 | - | - | - | 13.7 | 11.6 - 15.9 | 7 | - | - | - | 25.8 | 21.5 - 29.2 |
| | **Specimen XS-10** | | | | | | | | | | | |
| All Method | 17 | 13.94 | 0.37 | 2.7 | 13.9 | 11.8 - 16.1 | | | | | | |
| All Roche CoaguChek XS Plus Instruments | 16 | 13.87 | 0.35 | 2.5 | 13.8 | 11.7 - 16.0 | | | | | | |
| Roche CoaguChek XS Plus - Waived | 9 | - | - | - | 13.8 | 11.7 - 16.0 | | | | | | |
| Roche CoaguChek XS Plus | 7 | - | - | - | 14.0 | 11.7 - 16.0 | | | | | | |

## COAGUCHEK XS PLUS PROTHROMBIN TIME–INTERNATIONAL NORMALIZED RATIO (INR)

| | Specimen XS-6 | | | | | | Specimen XS-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 36 | 3.04 | 0.12 | 3.9 | 3.0 | 2.4 - 3.7 | 36 | 2.11 | 0.07 | 3.5 | 2.1 | 1.6 - 2.6 |
| All Roche CoaguChek XS Plus Instruments | 34 | 3.03 | 0.12 | 3.9 | 3.0 | 2.4 - 3.7 | 34 | 2.11 | 0.07 | 3.5 | 2.1 | 1.6 - 2.6 |
| Roche CoaguChek XS Plus - Waived | 24 | 3.03 | 0.11 | 3.7 | 3.0 | 2.4 - 3.7 | 24 | 2.11 | 0.07 | 3.4 | 2.1 | 1.6 - 2.6 |
| Roche CoaguChek XS Plus | 10 | 3.03 | 0.15 | 5.0 | 3.1 | 2.4 - 3.7 | 10 | 2.11 | 0.09 | 4.3 | 2.1 | 1.6 - 2.6 |
| | **Specimen XS-8** | | | | | | **Specimen XS-9** | | | | | |
| All Method | 24 | 1.16 | 0.05 | 4.3 | 1.2 | 0.9 - 1.4 | 24 | 2.11 | 0.12 | 5.8 | 2.1 | 1.6 - 2.6 |
| All Roche CoaguChek XS Plus Instruments | 21 | 1.16 | 0.05 | 4.5 | 1.2 | 0.9 - 1.4 | 21 | 2.10 | 0.12 | 5.9 | 2.1 | 1.6 - 2.6 |
| Roche CoaguChek XS Plus - Waived | 10 | 1.18 | 0.04 | 3.5 | 1.2 | 0.9 - 1.5 | 10 | 2.08 | 0.10 | 4.7 | 2.1 | 1.6 - 2.5 |
| Roche CoaguChek XS Plus | 9 | - | - | - | 1.1 | 0.9 - 1.4 | 9 | - | - | - | 2.2 | 1.6 - 2.6 |
| | **Specimen XS-10** | | | | | | | | | | | |
| All Method | 24 | 1.14 | 0.05 | 4.5 | 1.1 | 0.9 - 1.4 | | | | | | |
| All Roche CoaguChek XS Plus Instruments | 21 | 1.13 | 0.05 | 4.4 | 1.1 | 0.9 - 1.4 | | | | | | |
| Roche CoaguChek XS Plus - Waived | 10 | 1.12 | 0.04 | 3.7 | 1.1 | 0.8 - 1.4 | | | | | | |
| Roche CoaguChek XS Plus | 9 | - | - | - | 1.2 | 0.9 - 1.4 | | | | | | |

## COAGUCHECK XS - INTERNATIONAL NORMALIZED RATIO (INR)

| | Specimen INX-3 | | | | | | Specimen INX-4 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| Roche CoaguChek XS | 106 | 1.17 | 0.05 | 4.1 | 1.2 | 0.9 - 1.5 | 107 | 2.14 | 0.08 | 3.9 | 2.1 | 1.7 - 2.6 |

## i-Stat PROTHROMBIN TIME (seconds)

| | Specimen PTI-6 | | | | | Specimen PTI-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| i-Stat Prothrombin Time | 10 | 15.58 | 0.81 | 5.2 | 15.2 | 13.2 - 18.0 | 10 | 28.98 | 0.77 | 2.7 | 28.7 | 24.6 - 33.4 |
| | **Specimen PTI-8** | | | | | | **Specimen PTI-9** | | | | | |
| i-Stat Prothrombin Time | 10 | 28.10 | 1.32 | 4.7 | 28.2 | 23.8 - 32.4 | 10 | 15.26 | 0.85 | 5.6 | 15.0 | 12.9 - 17.6 |
| | **Specimen PTI-10** | | | | | | | | | | | |
| i-Stat Prothrombin Time | 10 | 28.30 | 0.88 | 3.1 | 28.0 | 24.0 - 32.6 | | | | | | |

## i-Stat PROTHROMBIN TIME - INTERNATIONAL NORMALIZED RATIO (INR)

| | Specimen PTI-6 | | | | | Specimen PTI-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| i-Stat Prothrombin Time | 10 | 1.32 | 0.04 | 3.4 | 1.3 | 1.0 - 1.6 | 10 | 2.52 | 0.04 | 1.8 | 2.5 | 2.0 - 3.1 |
| | **Specimen PTI-8** | | | | | | **Specimen PTI-9** | | | | | |
| i-Stat Prothrombin Time | 10 | 2.44 | 0.13 | 5.5 | 2.5 | 1.9 - 3.0 | 10 | 1.28 | 0.08 | 6.5 | 1.3 | 1.0 - 1.6 |
| | **Specimen PTI-10** | | | | | | | | | | | |
| i-Stat Prothrombin Time | 10 | 2.46 | 0.09 | 3.6 | 2.4 | 1.9 - 3.0 | | | | | | |

## FLUID CELL COUNT – WHITE BLOOD CELL COUNT (µL)

| | Specimen BF-3 | | | | | Specimen BF-4 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 5 | 344.0 | 63.6 | 18.5 | 344 | 216 - 472 | 5 | 5.0 | 2.8 | 56.6 | 5 | 0 - 11 |

## FLUID CELL COUNT – RED BLOOD CELL COUNT (µL)

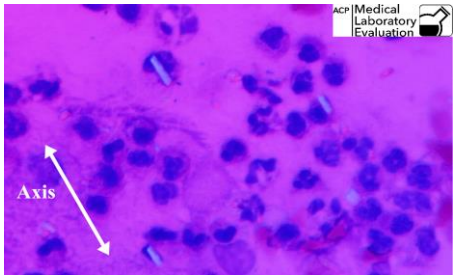
| | Specimen BF-3 | | | | | Specimen BF-4 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 5 | 1163.0 | 9.9 | 0.9 | 1163 | 1143 - 1183 | 5 | 0.0 | 0.1 | 0.0 | 0 | 0 - 1 |

**2019 M2**
**FLUID CRYSTAL IDENTIFICATION**
**Specimens FC-3 and FC-4**

Crystals can generally be classified as either optically isotropic or anisotropic. Isotropic solids refract light rays equally in all directions throughout the crystalline structure, regardless of the crystal's orientation to the light source. In contrast, anisotropic crystals interact with light in a manner that is dependent upon the alignment of the crystal. Anisotropic crystals have an internal structure that will cause a ray of light to split into two rays, each traveling in a different direction. A light beam hitting the crystal from one direction or angle will react differently than a beam hitting the crystal at a different angle. This property of splitting light is called **birefringence** or double refraction.

Microscopic examination of synovial fluid for crystals is an important diagnostic test in the evaluation of arthritis. Some crystals can be identified by their shape or morphology alone. Others have similar shapes and need specialized techniques for identification. Using compensated polarized light helps us to identify crystals based on the optical differences described above. The compensator separates the microscope's light rays into slow-moving and fast-moving vibrations or waves. The compensator is marked with an arrow indicating the direction of the slow vibration. The "axis" in the photos below indicates the direction of the slow wave. Color produced by a crystal aligned with the slow-vibration ray of light can be used to identify the crystal. This difference in color is due to the molecular structure inside the crystal, which either allows the light to pass through unchanged, or impedes the light.

**Specimen FC-3**

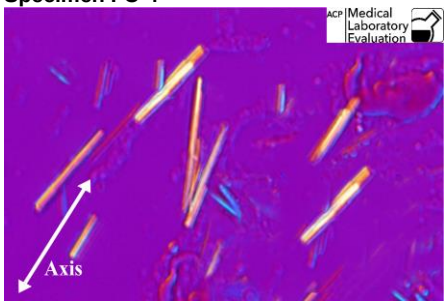



| Identification | Labs | Percent | Performance |
|---|---|---|---|
| CPPD crystals | 4 | 100% | Acceptable |

The objects in this photograph are **calcium pyrophosphate dihydrate (CPPD) crystals**. Calcium pyrophosphate crystals cause calcium pyrophosphate disease, a condition commonly called pseudogout. CPPD crystals are usually rhomboidal or rod-shaped, but are occasionally needle-shaped. These crystals demonstrate **positive birefringence**, because they are blue in color when aligned with (parallel to) the compensator filter/axis. Crystals that are not aligned parallel to the axis will be pink-red. The large number of white blood cells in this fluid specimen indicates presence of acute inflammation. To view another photo of CPPD crystals, see 2017 M1 Specimen FC-2.

**2019 M2**
**FLUID CRYSTAL IDENTIFICATION**

**Specimen FC-4**




| Identification | Labs | Percent | Performance |
|---|---|---|---|
| MSU (Monosodium Urate) crystals | 4 | 100% | Acceptable |

The objects in this photograph are **monosodium urate (MSU) crystals**. MSU crystals are usually thin and needle-like with pointed ends. They can be either intracellular or extracellular. MSU crystals are associated with gout, which is a common crystal-induced inflammatory arthritis. The crystals form in joints and tissues when the uric acid level is elevated. They cause inflammation and soft tissue damage, resulting in painful swelling, usually in one joint. The base of the big toe is often affected. Gout is caused by either decreased excretion of uric acid into the urine, or increased production of uric acid. There are many factors that contribute to gout, including alcohol use, purine-rich diets, obesity and the metabolic syndrome, and dehydration or use of diuretic agents. Since there are other crystals that can be needle-shaped, examination with a red plate compensator can help with identification. MSU crystals are **negatively birefringent**, meaning the crystals that are lying parallel to (aligned with) the compensator filter axis are yellow, and the crystals lying perpendicular to the filter axis are blue. To view another photo of MSU, see 2018 M3 Specimen FC-5.

**REFERENCES:**

Abramowitz, M, Davidson, MW. “Optical Birefringence.” *Olympus Microscopy Resource Center*. Accessed 7/28/16. Available at: http://www.olympusmicro.com/primer/lightandcolor/birefringence.html

Al-Ashkar, F. “Gout and Pseudogout.” *Cleveland Clinic Center for Continuing Education*. Accessed 7/28/16. Available at: http://www.clevelandclinicmeded.com/medicalpubs/diseasemanagement/rheumatology/gout-and-pseudogout/default.htm

Carr, J.H., Rodak, B.F.: *Clinical Hematology Atlas, 3rd ed.* Saunders, St. Louis, 2009.

"Double Refraction / Optics." *Encyclopedia Britannica Online*. Encyclopedia Britannica, n.d. Web. 18 May 2015. Available at: http://www.britannica.com/EBchecked/topic/170003/double-refraction

Mundt, L.A, Shanahan, K.: *Graff's Textbook of Routine Urinalysis and Body Fluids, 2nd ed.* Philadelphia: Lippincott Williams & Wilkins, 2011.

Ringsrud, K. M., Linné, J. J.: *Urinalysis and Body Fluids/ A ColorText and Atlas.* St. Louis, Mosby, 1995.

## MICROALBUMIN, DIPSTICK

**Specimen UM-2**

*Participant Results*

| Method | Labs | Negative | 10 mg/L | 20 mg/L | 30 mg/L | 50 mg/L | 80 mg/L | 100 mg/L | 150 mg/L | + (4 - 8 mg/dL) | ++ (>8 mg/dL) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ALL METHODS | 31 | - | - | - | - | - | 26 | 1 | 4 | - | - |
| Roche Micral - 1 minute | 1 | - | - | - | - | - | - | 1 | - | - | - |
| Siemens Clinitek Microalbumin | 28 | - | - | - | - | - | 24 | - | 4 | - | - |
| Siemens Clinitek Status / Status+ | 1 | - | - | - | - | - | 1 | - | - | - | - |
| Uriscan Optima | 1 | - | - | - | - | - | 1 | - | - | - | - |

## CREATININE, DIPSTICK

**Specimen UM-2**

*Participant Results*

| Method | Labs | Negative | 10 mg/dL | 30 mg/dL | 50 mg/dL | 100 mg/dL | 200 mg/dL | 300 mg/dL |
|---|---|---|---|---|---|---|---|---|
| ALL METHODS | 31 | - | 1 | - | 2 | 16 | 11 | 1 |
| Siemens Clinitek Microalbumin | 28 | - | 1 | - | 2 | 16 | 8 | 1 |
| Siemens Clinitek Status / Status+ | 1 | - | - | - | - | - | 1 | - |
| Siemens Multistix Pro | 2 | - | - | - | - | - | 2 | - |

## MICROALBUMIN, QUANTITATIVE

**Specimen UM-2**

| Method | Labs | Mean | SD | CV | Median | Range |
|---|---|---|---|---|---|---|
| All Method | 58 | 124.33 | 7.76 | 6.2 | 123.3 | 87.0 - 161.7 |
| Beckman AU | 20 | 121.47 | 3.79 | 3.1 | 121.7 | 85.0 - 158.0 |

## CREATININE, URINE (mg/dL)

**Specimen UM-2**

| Method | Labs | Mean | SD | CV | Median | Range |
|---|---|---|---|---|---|---|
| All Method | 53 | 67.80 | 6.08 | 9.0 | 68.8 | 56.2 - 79.4 |
| Beckman AU | 21 | 63.15 | 4.47 | 7.1 | 61.2 | 52.4 - 73.9 |

## WAIVED HEMATOLOGY–HEMOGLOBIN (g/dL)

| | Specimen HD-6 | | | | | | Specimen HD-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 95 | 13.22 | 0.44 | 3.3 | 13.2 | 12.2 - 14.2 | 98 | 16.78 | 0.63 | 3.8 | 16.7 | 15.5 - 18.1 |
| All Stanbio Methods | 21 | 13.49 | 0.59 | 4.4 | 13.7 | 12.3 - 14.7 | 22 | 17.26 | 0.74 | 4.3 | 17.4 | 15.7 - 18.8 |
| Alere (Stanbio) HemoPoint H2 | 21 | 13.49 | 0.59 | 4.4 | 13.7 | 12.3 - 14.7 | 22 | 17.26 | 0.74 | 4.3 | 17.4 | 15.7 - 18.8 |
| HemoCue | 72 | 13.16 | 0.32 | 2.4 | 13.1 | 12.2 - 14.1 | 74 | 16.60 | 0.46 | 2.7 | 16.6 | 15.4 - 17.8 |

## WAIVED HEMATOLOGY–HEMATOCRIT (percent)

| | Specimen HD-6 | | | | | | Specimen HD-7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Instrument*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** | ***Labs*** | ***Mean*** | ***SD*** | ***CV*** | ***Median*** | ***Range*** |
| All Method | 16 | 36.02 | 7.12 | 19.8 | 39.0 | 21.7 - 50.3 | 16 | 49.46 | 4.07 | 8.2 | 50.3 | 41.3 - 57.6 |
| Alere (Stanbio) HemoPoint H2 | 10 | 38.28 | 4.83 | 12.6 | 41.0 | 28.6 - 48.0 | 10 | 50.02 | 3.19 | 6.4 | 51.0 | 43.6 - 56.4 |

## KOH SKIN PREPARATION

| ***Specimen*** | ***Identification*** | ***Labs*** | ***Percent*** | ***Performance*** |
|---|---|---|---|---|
| K-3 | Yeast/fungal elements present | 86 | 76.79% | Acceptable |
| | Yeast/fungal elements absent | 26 | 23.21% | |

Organism present in specimen K-3: *Aspergillus niger.* The specimen K-3 is graded to 91% referee consensus.

| | | | | |
|---|---|---|---|---|
| K-4 | Yeast/fungal elements present | 108 | 96.43% | Acceptable |
| | Yeast/fungal elements absent | 4 | 3.57% | |

Organism present in specimen K-4: *Tritirachium roseum.*

## URINALYSIS DIPSTICK–SPECIFIC GRAVITY

**Specimen UA-2**

| *Method* | *Labs* | *Mean* | *SD* | *CV* | *Median* | *Range* |
|---|---|---|---|---|---|---|
| All Method | 693 | 1.0203 | 0.0035 | 0.3 | 1.020 | 1.010 - 1.031 |
| All Roche Methods | 13 | 1.0150 | 0.0020 | 0.2 | 1.015 | 1.005 - 1.025 |
| All Siemens Methods | 441 | 1.0199 | 0.0023 | 0.2 | 1.020 | 1.009 - 1.030 |
| Diagnostic Test Group Clarity Urocheck 120 | 10 | 1.0275 | 0.0026 | 0.3 | 1.028 | 1.017 - 1.038 |
| Henry Schein Urispec / Urispec Plus | 21 | 1.0169 | 0.0034 | 0.3 | 1.015 | 1.006 - 1.027 |
| McKesson 120 Urine Analyzer | 23 | 1.0265 | 0.0023 | 0.2 | 1.025 | 1.016 - 1.037 |
| Roche Chemstrips | 29 | 1.0155 | 0.0024 | 0.2 | 1.015 | 1.005 - 1.026 |
| Siemens Clinitek 50 | 11 | 1.0186 | 0.0023 | 0.2 | 1.020 | 1.008 - 1.029 |
| Siemens Clinitek Advantus | 14 | 1.0200 | 0.0001 | 0.0 | 1.020 | 1.010 - 1.030 |
| Siemens Clinitek Status / Status+ | 403 | 1.0199 | 0.0024 | 0.2 | 1.020 | 1.009 - 1.030 |
| Siemens Reagent Strips | 99 | 1.0204 | 0.0029 | 0.3 | 1.020 | 1.010 - 1.031 |

## URINALYSIS DIPSTICK–pH

**Specimen UA-2**

***Participant Results***

| ***Method*** | ***Labs*** | ***≤3.5*** | ***4.0*** | ***4.5*** | ***5.0*** | ***5.5*** | ***6.0*** | ***6.5*** | ***7.0*** | ***7.5*** | ***8.0*** | ***8.5*** | ***≥9.0*** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALL METHODS | 708 | - | - | - | 296 | 300 | 105 | 4 | 2 | 1 | - | - | - |
| BTNX Rapid Response U120/U500 | 1 | - | - | - | - | - | 1 | - | - | - | - | - | - |
| Consult Diagnostics Reagent Strips | 1 | - | - | - | - | 1 | - | - | - | - | - | - | - |
| Consult Diagnostics Urine Analyzer | 3 | - | - | - | 1 | - | 2 | - | - | - | - | - | - |
| CTMI CT-120 Urine Analyzer | 5 | - | - | - | - | - | 5 | - | - | - | - | - | - |
| Diagnostic Test Group Clarity Urocheck | 3 | - | - | - | 1 | 2 | - | - | - | - | - | - | - |
| Diagnostic Test Group Clarity Urocheck 120 | 10 | - | - | - | - | 5 | 4 | - | 1 | - | - | - | - |
| Germaine Laboratories AimStrip | 2 | - | - | - | 1 | 1 | - | - | - | - | - | - | - |
| Germaine Labs AimStrip Urine Analyzer | 2 | - | - | - | - | 1 | 1 | - | - | - | - | - | - |
| Henry Schein One Step Plus | 1 | - | - | - | 1 | - | - | - | - | - | - | - | - |
| Henry Schein Urispec / Urispec Plus | 21 | - | - | - | 20 | - | 1 | - | - | - | - | - | - |
| McKesson 10SG Reagent Strips | 4 | - | - | - | 3 | - | 1 | - | - | - | - | - | - |
| McKesson 120 Urine Analyzer | 23 | - | - | - | 1 | 7 | 15 | - | - | - | - | - | - |
| Medline 120 Urine Analyzer | 6 | - | - | - | - | 3 | 3 | - | - | - | - | - | - |
| Medline Urinalysis Reagent Strips | 3 | - | - | - | 2 | - | 1 | - | - | - | - | - | - |
| Moore Medical Urine Reagent Strips | 1 | - | - | - | 1 | - | - | - | - | - | - | - | - |
| NDC Pro Advantage | 1 | - | - | - | - | - | 1 | - | - | - | - | - | - |
| Other Dipstick Method | 7 | - | - | - | 4 | - | 2 | 1 | - | - | - | - | - |
| Roche Chemstrips | 31 | - | - | - | 31 | - | - | - | - | - | - | - | - |
| Roche cobas u 411 | 1 | - | - | - | 1 | - | - | - | - | - | - | - | - |
| Roche Criterion Analyzer | 2 | - | - | - | 2 | - | - | - | - | - | - | - | - |
| Roche SuperUA/ChemstripUA | 1 | - | - | - | 1 | - | - | - | - | - | - | - | - |
| Roche Urisys | 9 | - | - | - | 8 | - | - | 1 | - | - | - | - | - |
| Siemens Clinitek 10 / 100 | 5 | - | - | - | 3 | 2 | - | - | - | - | - | - | - |
| Siemens Clinitek 50 | 11 | - | - | - | 9 | 2 | - | - | - | - | - | - | - |
| Siemens Clinitek 500 | 4 | - | - | - | - | 3 | 1 | - | - | - | - | - | - |
| Siemens Clinitek Advantus | 15 | - | - | - | - | 11 | 4 | - | - | - | - | - | - |
| Siemens Clinitek Status / Status+ | 408 | - | - | - | 154 | 245 | 7 | - | 1 | 1 | - | - | - |
| Siemens Hemacombistix | 1 | - | - | - | 1 | - | - | - | - | - | - | - | - |
| Siemens Multistix Pro | 3 | - | - | - | 1 | - | 2 | - | - | - | - | - | - |
| Siemens Reagent Strips | 107 | - | - | - | 41 | 11 | 53 | 2 | - | - | - | - | - |
| Uriscan Optima | 2 | - | - | - | 2 | - | - | - | - | - | - | - | - |
| UriScan Reagent Strips | 2 | - | - | - | 2 | - | - | - | - | - | - | - | - |

## URINALYSIS DIPSTICK–PROTEIN QUALITATIVE

**Specimen UA-2**

| | | *Participant Results* | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Method*** | ***Labs*** | ***Negative*** | ***Trace*** | ***(1+)*** | ***(2+)*** | ***(3+)*** | ***(4+)*** | ***10 - 20 mg/dL*** | ***30 - 70 mg/dL*** | ***75 mg/dL*** | ***100 - 200 mg/dL*** | ***≥300 - 600 mg/dL*** | ***>600 or ≥1000 mg/dL*** |
| ALL METHODS | 721 | 706 | 8 | - | 1 | - | - | 3 | - | - | 2 | 1 | - |
| BTNX Rapid Response U120/U500 | 1 | 1 | - | - | - | - | - | - | - | - | - | - | - |
| Consult Diagnostics Reagent Strips | 1 | 1 | - | - | - | - | - | - | - | - | - | - | - |
| Consult Diagnostics Urine Analyzer | 3 | 3 | - | - | - | - | - | - | - | - | - | - | - |
| CTMI CT-120 Urine Analyzer | 5 | 5 | - | - | - | - | - | - | - | - | - | - | - |
| Diagnostic Test Group Clarity Urocheck | 3 | 3 | - | - | - | - | - | - | - | - | - | - | - |
| Diagnostic Test Group Clarity Urocheck 120 | 10 | 9 | - | - | 1 | - | - | - | - | - | - | - | - |
| Germaine Laboratories AimStrip | 2 | 1 | 1 | - | - | - | - | - | - | - | - | - | - |
| Germaine Labs AimStrip Urine Analyzer | 2 | 2 | - | - | - | - | - | - | - | - | - | - | - |
| Henry Schein One Step Plus | 1 | 1 | - | - | - | - | - | - | - | - | - | - | - |
| Henry Schein Urispec / Urispec Plus | 21 | 21 | - | - | - | - | - | - | - | - | - | - | - |
| McKesson 10SG Reagent Strips | 4 | 4 | - | - | - | - | - | - | - | - | - | - | - |
| McKesson 120 Urine Analyzer | 23 | 23 | - | - | - | - | - | - | - | - | - | - | - |
| Medline 120 Urine Analyzer | 6 | 6 | - | - | - | - | - | - | - | - | - | - | - |
| Medline Urinalysis Reagent Strips | 3 | 3 | - | - | - | - | - | - | - | - | - | - | - |
| Moore Medical Urine Reagent Strips | 1 | 1 | - | - | - | - | - | - | - | - | - | - | - |
| NDC Pro Advantage | 1 | 1 | - | - | - | - | - | - | - | - | - | - | - |
| Other Dipstick Method | 7 | 4 | - | - | - | - | - | 3 | - | - | - | - | - |
| Roche Chemstrips | 41 | 39 | 2 | - | - | - | - | - | - | - | - | - | - |
| Roche cobas u 411 | 1 | 1 | - | - | - | - | - | - | - | - | - | - | - |

**URINALYSIS DIPSTICK–PROTEIN QUALITATIVE (cont'd)**

**Specimen UA-2**

| | | *Participant Results* | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Method*** | ***Labs*** | ***Negative*** | ***Trace*** | ***(1+)*** | ***(2+)*** | ***(3+)*** | ***(4+)*** | ***10 - 20 mg/dL*** | ***30 - 70 mg/dL*** | ***75 mg/dL*** | ***100 - 200 mg/dL*** | ***≥300 - 600 mg/dL*** | ***>600 or ≥1000 mg/dL*** |
| Roche Criterion Analyzer | 2 | 2 | - | - | - | - | - | - | - | - | - | - | - |
| Roche SuperUA/ChemstripUA | 1 | 1 | - | - | - | - | - | - | - | - | - | - | - |
| Roche Urisys | 9 | 9 | - | - | - | - | - | - | - | - | - | - | - |
| Siemens Clinitek 10 / 100 | 5 | 5 | - | - | - | - | - | - | - | - | - | - | - |
| Siemens Clinitek 50 | 11 | 11 | - | - | - | - | - | - | - | - | - | - | - |
| Siemens Clinitek 500 | 4 | 4 | - | - | - | - | - | - | - | - | - | - | - |
| Siemens Clinitek Advantus | 15 | 15 | - | - | - | - | - | - | - | - | - | - | - |
| Siemens Clinitek Status / Status+ | 408 | 406 | - | - | - | - | - | - | - | - | 1 | 1 | - |
| Siemens Hemacombistix | 1 | 1 | - | - | - | - | - | - | - | - | - | - | - |
| Siemens Multistix Pro | 3 | 3 | - | - | - | - | - | - | - | - | - | - | - |
| Siemens Reagent Strips | 109 | 103 | 5 | - | - | - | - | - | - | - | 1 | - | - |
| Siemens Uristix | 2 | 2 | - | - | - | - | - | - | - | - | - | - | - |
| Uriscan Optima | 2 | 2 | - | - | - | - | - | - | - | - | - | - | - |
| UriScan Reagent Strips | 2 | 2 | - | - | - | - | - | - | - | - | - | - | - |

## URINALYSIS DIPSTICK–GLUCOSE

**Specimen UA-2**

| Method | Labs | Participant Results | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Negative or Normal | Trace | (1+) | (2+) | (3+) | (4+) | 30 - 100 mg/dL | 150 - 300 mg/dL | 500 mg/dL | >500 or ≥1000 or ≥2000 mg/dL |
| ALL METHODS | 723 | 25 | 54 | 150 | 4 | 4 | 3 | 139 | 273 | 7 | 64 |
| BTNX Rapid Response U120/U500 | 1 | - | - | 1 | - | - | - | - | - | - | - |
| Consult Diagnostics Reagent Strips | 1 | - | - | 1 | - | - | - | - | - | - | - |
| Consult Diagnostics Urine Analyzer | 3 | - | - | 1 | - | - | - | 1 | 1 | - | - |
| CTMI CT-120 Urine Analyzer | 5 | - | - | 1 | - | - | - | 1 | 3 | - | - |
| Diagnostic Test Group Clarity Urocheck | 3 | - | - | 3 | - | - | - | - | - | - | - |
| Diagnostic Test Group Clarity Urocheck 120 | 10 | 1 | - | 7 | - | - | - | 1 | 1 | - | - |
| Germaine Laboratories AimStrip | 2 | - | - | 1 | - | - | - | 1 | - | - | - |
| Germaine Labs AimStrip Urine Analyzer | 2 | - | - | 1 | - | - | - | - | 1 | - | - |
| Henry Schein One Step Plus | 1 | - | - | - | - | - | - | - | - | - | 1 |
| Henry Schein Urispec / Urispec Plus | 21 | - | - | - | - | - | - | 1 | 1 | 3 | 16 |
| McKesson 10SG Reagent Strips | 4 | - | - | 3 | - | - | - | - | 1 | - | - |
| McKesson 120 Urine Analyzer | 23 | - | - | 20 | - | - | - | 1 | 2 | - | - |
| Medline 120 Urine Analyzer | 6 | - | - | 5 | 1 | - | - | - | - | - | - |
| Medline Urinalysis Reagent Strips | 3 | - | 1 | 2 | - | - | - | - | - | - | - |
| Moore Medical Urine Reagent Strips | 1 | - | - | - | 1 | - | - | - | - | - | - |
| NDC Pro Advantage | 1 | - | - | 1 | - | - | - | - | - | - | - |
| Other Dipstick Method | 7 | 1 | 2 | - | - | - | - | 4 | - | - | - |
| Roche Chemstrips | 41 | - | - | - | - | - | 2 | - | 1 | 4 | 34 |
| Roche cobas u 411 | 1 | - | - | - | - | - | - | - | - | - | 1 |
| Roche Criterion Analyzer | 2 | - | - | - | - | - | - | - | - | - | 2 |
| Roche SuperUA/ChemstripUA | 1 | - | - | - | - | - | - | - | - | - | 1 |
| Roche Urisys | 9 | - | - | - | - | 2 | - | - | - | - | 7 |
| Siemens Clinitek 10 / 100 | 5 | 1 | - | - | - | - | - | 2 | 2 | - | - |
| Siemens Clinitek 50 | 11 | - | - | 5 | - | - | - | 2 | 4 | - | - |
| Siemens Clinitek 500 | 4 | - | - | 1 | - | - | - | 2 | 1 | - | - |
| Siemens Clinitek Advantus | 15 | - | 7 | 1 | - | - | - | 5 | 2 | - | - |
| Siemens Clinitek Status / Status+ | 407 | 3 | 32 | 83 | - | - | - | 82 | 207 | - | - |
| Siemens Hemacombistix | 1 | - | - | - | - | - | - | - | 1 | - | - |
| Siemens Multistix Pro | 3 | 1 | 1 | - | - | - | - | - | 1 | - | - |
| Siemens Reagent Strips | 110 | 15 | 8 | 9 | 1 | - | 1 | 34 | 41 | - | 1 |
| Siemens Uristix | 3 | 2 | 1 | - | - | - | - | - | - | - | - |
| Uriscan Optima | 2 | - | - | - | - | 1 | - | - | 1 | - | - |
| UriScan Reagent Strips | 2 | - | - | - | 1 | - | - | - | 1 | - | - |

## URINALYSIS DIPSTICK–KETONES

**Specimen UA-2**

| | | Participant Results | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Method*** | ***Labs*** | ***Negative*** | ***Trace*** | ***Small*** | ***Moderate*** | ***Large*** | ***(1+)*** | ***(2+)*** | ***(3+)*** | ***(4+)*** | ***5 - 10 mg/dL*** | ***15 - 25 mg/dL*** | ***40 - 60 mg/dL*** | ***80 - 100 mg/dL*** | ***≥150 mg/dL*** |
| ALL METHODS | 707 | 9 | - | 9 | 37 | 31 | 15 | 168 | 27 | 1 | - | 29 | 341 | 40 | - |
| BTNX Rapid Response U120/U500 | 1 | - | - | - | - | - | - | 1 | - | - | - | - | - | - | - |
| Consult Diagnostics Reagent Strips | 1 | - | - | - | - | - | - | 1 | - | - | - | - | - | - | - |
| Consult Diagnostics Urine Analyzer | 3 | - | - | - | - | - | - | 2 | - | - | - | - | 1 | - | - |
| CTMI CT-120 Urine Analyzer | 5 | - | - | - | - | - | - | 2 | - | - | - | 2 | 1 | - | - |
| Diagnostic Test Group Clarity Urocheck | 3 | - | - | - | - | - | - | 1 | 2 | - | - | - | - | - | - |
| Diagnostic Test Group Clarity Urocheck 120 | 10 | 1 | - | - | - | - | 1 | 4 | 3 | - | - | - | 1 | - | - |
| Germaine Laboratories AimStrip | 2 | - | - | - | - | - | - | 1 | - | - | - | - | 1 | - | - |
| Germaine Laboratories AimTab | 1 | - | - | - | 1 | - | - | - | - | - | - | - | - | - | - |
| Germaine Labs AimStrip Urine Analyzer | 2 | - | - | - | - | - | - | 1 | - | - | - | - | - | 1 | - |
| Henry Schein One Step Plus | 1 | - | - | - | - | - | - | - | - | - | - | 1 | - | - | - |
| Henry Schein Urispec / Urispec Plus | 21 | - | - | - | - | 1 | - | - | 1 | - | - | 19 | - | - | - |
| McKesson 10SG Reagent Strips | 4 | - | - | - | - | - | - | 2 | 2 | - | - | - | - | - | - |
| McKesson 120 Urine Analyzer | 23 | - | - | - | - | - | - | 15 | 4 | - | - | - | 4 | - | - |
| Medline 120 Urine Analyzer | 6 | - | - | - | - | - | - | 3 | 3 | - | - | - | - | - | - |
| Medline Urinalysis Reagent Strips | 3 | - | - | 1 | - | - | - | 1 | 1 | - | - | - | - | - | - |
| NDC Pro Advantage | 1 | - | - | - | - | - | - | 1 | - | - | - | - | - | - | - |
| Other Dipstick Method | 7 | - | - | - | 3 | - | 2 | 1 | - | - | - | - | 1 | - | - |
| Roche Chemstrips | 32 | 3 | - | 5 | 6 | 4 | - | 7 | 6 | 1 | - | - | - | - | - |
| Roche cobas u 411 | 1 | - | - | - | - | - | - | - | - | - | - | - | 1 | - | - |
| Roche Criterion Analyzer | 2 | - | - | - | - | - | - | - | - | - | - | - | 2 | - | - |
| Roche SuperUA/ChemstripUA | 1 | - | - | - | - | 1 | - | - | - | - | - | - | - | - | - |
| Roche Urisys | 9 | - | - | - | - | - | - | 2 | - | - | - | 1 | 6 | - | - |
| Siemens Clinitek 10 / 100 | 5 | - | - | - | - | - | - | 1 | - | - | - | - | 4 | - | - |
| Siemens Clinitek 50 | 11 | - | - | - | - | - | - | 4 | - | - | - | - | 7 | - | - |
| Siemens Clinitek 500 | 4 | - | - | - | - | - | - | 1 | - | - | - | 1 | 2 | - | - |
| Siemens Clinitek Advantus | 14 | - | - | - | - | - | 6 | 2 | - | - | - | 1 | 5 | - | - |
| Siemens Clinitek Status / Status+ | 407 | 3 | - | 1 | 3 | - | 4 | 103 | 4 | - | - | 3 | 280 | 6 | - |
| Siemens Multistix Pro | 3 | - | - | - | - | - | - | - | - | - | - | - | - | 3 | - |
| Siemens Reagent Strips | 108 | - | - | 2 | 23 | 25 | - | 8 | 1 | - | - | - | 19 | 30 | - |
| Siemens Uristix | 1 | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Uriscan Optima | 2 | - | - | - | - | - | - | 1 | - | - | - | - | 1 | - | - |
| UriScan Reagent Strips | 1 | - | - | - | - | - | - | - | - | - | - | - | 1 | - | - |

## URINALYSIS DIPSTICK–BILIRUBIN

**Specimen UA-2**

| Method | Labs | Participant Results: Negative | Trace | Small | Moderate | Large | (1+) | (2+) | (3+) | (4+) | 0.5 - 1.0 mg/dL | 2.0 - 4.0 mg/dL | 6.0 - 10.0 mg/dL | >10.0 mg/dL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALL METHODS | 690 | 688 | 1 | 1 | - | - | - | - | - | - | - | - | - | - |
| BTNX Rapid Response U120/U500 | 1 | 1 | - | - | - | - | - | - | - | - | - | - | - | - |
| Consult Diagnostics Reagent Strips | 1 | 1 | - | - | - | - | - | - | - | - | - | - | - | - |
| Consult Diagnostics Urine Analyzer | 3 | 3 | - | - | - | - | - | - | - | - | - | - | - | - |
| CTMI CT-120 Urine Analyzer | 5 | 5 | - | - | - | - | - | - | - | - | - | - | - | - |
| Diagnostic Test Group Clarity Urocheck | 3 | 3 | - | - | - | - | - | - | - | - | - | - | - | - |
| Diagnostic Test Group Clarity Urocheck 120 | 9 | 9 | - | - | - | - | - | - | - | - | - | - | - | - |
| Germaine Laboratories AimStrip | 2 | 2 | - | - | - | - | - | - | - | - | - | - | - | - |
| Germaine Labs AimStrip Urine Analyzer | 2 | 2 | - | - | - | - | - | - | - | - | - | - | - | - |
| Henry Schein One Step Plus | 1 | 1 | - | - | - | - | - | - | - | - | - | - | - | - |
| Henry Schein Urispec / Urispec Plus | 21 | 21 | - | - | - | - | - | - | - | - | - | - | - | - |
| McKesson 10SG Reagent Strips | 4 | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| McKesson 120 Urine Analyzer | 22 | 22 | - | - | - | - | - | - | - | - | - | - | - | - |
| Medline 120 Urine Analyzer | 7 | 7 | - | - | - | - | - | - | - | - | - | - | - | - |
| Medline Urinalysis Reagent Strips | 3 | 3 | - | - | - | - | - | - | - | - | - | - | - | - |
| Moore Medical Urine Reagent Strips | 1 | 1 | - | - | - | - | - | - | - | - | - | - | - | - |
| NDC Pro Advantage | 1 | 1 | - | - | - | - | - | - | - | - | - | - | - | - |
| Other Dipstick Method | 4 | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Roche Chemstrips | 31 | 31 | - | - | - | - | - | - | - | - | - | - | - | - |
| Roche cobas u 411 | 1 | 1 | - | - | - | - | - | - | - | - | - | - | - | - |
| Roche Criterion Analyzer | 2 | 2 | - | - | - | - | - | - | - | - | - | - | - | - |
| Roche SuperUA/ChemstripUA | 1 | 1 | - | - | - | - | - | - | - | - | - | - | - | - |
| Roche Urisys | 9 | 9 | - | - | - | - | - | - | - | - | - | - | - | - |
| Siemens Clinitek 10 / 100 | 5 | 5 | - | - | - | - | - | - | - | - | - | - | - | - |
| Siemens Clinitek 50 | 11 | 11 | - | - | - | - | - | - | - | - | - | - | - | - |
| Siemens Clinitek 500 | 4 | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Siemens Clinitek Advantus | 14 | 14 | - | - | - | - | - | - | - | - | - | - | - | - |
| Siemens Clinitek Status / Status+ | 403 | 403 | - | - | - | - | - | - | - | - | - | - | - | - |
| Siemens Multistix Pro | 3 | 2 | - | 1 | - | - | - | - | - | - | - | - | - | - |
| Siemens Reagent Strips | 102 | 102 | - | - | - | - | - | - | - | - | - | - | - | - |
| Uriscan Optima | 2 | 2 | - | - | - | - | - | - | - | - | - | - | - | - |
| UriScan Reagent Strips | 1 | 1 | - | - | - | - | - | - | - | - | - | - | - | - |

## URINALYSIS DIPSTICK–UROBILINOGEN

### Specimen UA-2

***Participant Results***

| ***Method*** | ***Labs*** | ***Normal or 0.0 - 0.2 mg/dL or <3.2 µmol/L*** | ***1.0 or <2.0 mg/dL or 16 or 17 µmol/L*** | ***2.0/3.0 mg/dL or 34 or 35 µmol/L*** | ***4.0 or 4.0/6.0 mg/dL or 70 µmol/L*** | ***≥8.0 or ≥12.0 mg/dL or ≥140 or 200 µmol/L*** |
|---|---|---|---|---|---|---|
| ALL METHODS | 684 | 681 | - | 3 | - | - |
| BTNX Rapid Response U120/U500 | 1 | 1 | - | - | - | - |
| Consult Diagnostics Reagent Strips | 2 | 2 | - | - | - | - |
| Consult Diagnostics Urine Analyzer | 3 | 3 | - | - | - | - |
| CTMI CT-120 Urine Analyzer | 5 | 5 | - | - | - | - |
| Diagnostic Test Group Clarity Urocheck | 3 | 3 | - | - | - | - |
| Diagnostic Test Group Clarity Urocheck 120 | 10 | 10 | - | - | - | - |
| Germaine Laboratories AimStrip | 2 | 2 | - | - | - | - |
| Germaine Labs AimStrip Urine Analyzer | 2 | 2 | - | - | - | - |
| Henry Schein One Step Plus | 1 | 1 | - | - | - | - |
| Henry Schein Urispec / Urispec Plus | 22 | 22 | - | - | - | - |
| McKesson 10SG Reagent Strips | 4 | 4 | - | - | - | - |
| McKesson 120 Urine Analyzer | 22 | 22 | - | - | - | - |
| Medline 120 Urine Analyzer | 6 | 4 | - | 2 | - | - |
| Medline Urinalysis Reagent Strips | 3 | 3 | - | - | - | - |
| Moore Medical Urine Reagent Strips | 1 | 1 | - | - | - | - |
| NDC Pro Advantage | 1 | 1 | - | - | - | - |
| Other Dipstick Method | 4 | 4 | - | - | - | - |
| Roche Chemstrips | 29 | 29 | - | - | - | - |
| Roche cobas u 411 | 1 | 1 | - | - | - | - |
| Roche Criterion Analyzer | 2 | 2 | - | - | - | - |
| Roche SuperUA/ChemstripUA | 1 | 1 | - | - | - | - |
| Roche Urisys | 10 | 10 | - | - | - | - |
| Siemens Clinitek 10 / 100 | 5 | 5 | - | - | - | - |
| Siemens Clinitek 50 | 12 | 12 | - | - | - | - |
| Siemens Clinitek 500 | 4 | 4 | - | - | - | - |
| Siemens Clinitek Advantus | 13 | 13 | - | - | - | - |
| Siemens Clinitek Status / Status+ | 398 | 397 | - | 1 | - | - |
| Siemens Multistix Pro | 3 | 3 | - | - | - | - |
| Siemens Reagent Strips | 104 | 104 | - | - | - | - |
| Uriscan Optima | 2 | 2 | - | - | - | - |
| UriScan Reagent Strips | 1 | 1 | - | - | - | - |

## URINALYSIS DIPSTICK–BLOOD/HEMOGLOBIN

**Specimen UA-2**

| | | *Participant Results* | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Method*** | ***Labs*** | ***Negative*** | ***Trace*** | ***Small*** | ***Moderate*** | ***Large*** | ***(1+)*** | ***(2+)*** | ***(3+)*** | ***(4+)*** | ***(5+)*** | ***5 - 25 Ery/µL*** | ***50 - 100 Ery/µL*** | ***200 - 250 Ery/µL*** | ***±0.03 mg/dL*** | ***0.06 - 0.10 mg/dL*** | ***0.2 - 0.5 mg/dL*** | ***≥ 1.0 mg/dL*** |
| ALL METHODS | 715 | 700 | 9 | - | 1 | 2 | 2 | - | 1 | - | - | - | - | - | - | - | - | - |
| BTNX Rapid Response U120/U500 | 1 | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Consult Diagnostics Reagent Strips | 2 | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Consult Diagnostics Urine Analyzer | 3 | 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CTMI CT-120 Urine Analyzer | 5 | 5 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Diagnostic Test Group Clarity Urocheck | 3 | 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Diagnostic Test Group Clarity Urocheck 120 | 9 | 8 | - | - | - | - | - | - | 1 | - | - | - | - | - | - | - | - | - |
| Germaine Laboratories AimStrip | 2 | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Germaine Labs AimStrip Urine Analyzer | 2 | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Henry Schein One Step Plus | 1 | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Henry Schein Urispec / Urispec Plus | 21 | 20 | - | - | - | - | 1 | - | - | - | - | - | - | - | - | - | - | - |
| McKesson 10SG Reagent Strips | 4 | 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| McKesson 120 Urine Analyzer | 23 | 23 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Medline 120 Urine Analyzer | 6 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Medline Urinalysis Reagent Strips | 3 | 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Moore Medical Urine Reagent Strips | 1 | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| NDC Pro Advantage | 1 | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Other Dipstick Method | 7 | 7 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Roche Chemstrips | 39 | 39 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Roche cobas u 411 | 1 | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Roche Criterion Analyzer | 2 | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Roche SuperUA/ChemstripUA | 1 | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Roche Urisys | 10 | 10 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Siemens Clinitek 10 / 100 | 5 | 4 | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Siemens Clinitek 50 | 12 | 12 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Siemens Clinitek 500 | 4 | 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Siemens Clinitek Advantus | 15 | 15 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Siemens Clinitek Status / Status+ | 405 | 393 | 8 | - | 1 | 2 | 1 | - | - | - | - | - | - | - | - | - | - | - |
| Siemens Hemacombistix | 1 | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Siemens Multistix Pro | 3 | 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Siemens Reagent Strips | 108 | 108 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Uriscan Optima | 2 | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| UriScan Reagent Strips | 2 | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

## URINALYSIS DIPSTICK–LEUKOCYTE ESTERASE

**Specimen UA-2**

| | | *Participant Results* | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Method*** | ***Labs*** | ***Negative*** | ***Trace*** | ***Small*** | ***Moderate*** | ***Large*** | ***(1+)*** | ***(2+)*** | ***(3+)*** | ***(4+)*** | ***15 or 25 µL*** | ***75 or 100 µL*** | ***250 or 500 µL*** |
| ALL METHODS | 717 | 10 | 18 | 181 | 191 | 13 | 98 | 152 | 15 | - | 3 | 2 | 34 |
| BTNX Rapid Response U120/U500 | 1 | - | - | - | - | - | - | 1 | - | - | - | - | - |
| Consult Diagnostics Reagent Strips | 2 | - | 1 | - | - | - | 1 | - | - | - | - | - | - |
| Consult Diagnostics Urine Analyzer | 3 | - | - | - | - | - | - | 2 | - | - | - | 1 | - |
| CTMI CT-120 Urine Analyzer | 5 | 1 | - | - | - | - | - | 1 | - | - | 3 | - | - |
| Diagnostic Test Group Clarity Urocheck | 3 | - | - | - | - | - | - | 3 | - | - | - | - | - |
| Diagnostic Test Group Clarity Urocheck 120 | 10 | 1 | - | - | - | - | 2 | 4 | 2 | - | - | - | 1 |
| Germaine Laboratories AimStrip | 2 | - | - | - | - | - | 1 | 1 | - | - | - | - | - |
| Germaine Labs AimStrip Urine Analyzer | 2 | - | - | - | - | - | 1 | 1 | - | - | - | - | - |
| Henry Schein One Step Plus | 1 | - | - | - | - | - | - | - | - | - | - | - | 1 |
| Henry Schein Urispec / Urispec Plus | 20 | - | - | 1 | - | - | - | - | 1 | - | - | - | 18 |
| McKesson 10SG Reagent Strips | 4 | - | - | - | - | - | 1 | 3 | - | - | - | - | - |
| McKesson 120 Urine Analyzer | 23 | - | - | - | - | - | 7 | 12 | 3 | - | - | 1 | - |
| Medline 120 Urine Analyzer | 6 | - | - | - | - | - | 1 | 4 | 1 | - | - | - | - |
| Medline Urinalysis Reagent Strips | 3 | 1 | - | - | - | - | 1 | 1 | - | - | - | - | - |
| Moore Medical Urine Reagent Strips | 1 | - | - | - | - | - | - | 1 | - | - | - | - | - |
| NDC Pro Advantage | 1 | - | - | - | - | - | 1 | - | - | - | - | - | - |
| Other Dipstick Method | 7 | 1 | - | - | 2 | 1 | 3 | - | - | - | - | - | - |
| Roche Chemstrips | 39 | - | - | - | - | 5 | - | 34 | - | - | - | - | - |
| Roche cobas u 411 | 1 | - | - | - | - | - | - | - | - | - | - | - | 1 |
| Roche Criterion Analyzer | 2 | - | - | - | - | - | - | - | - | - | - | - | 2 |
| Roche SuperUA/ChemstripUA | 1 | - | - | - | - | - | - | 1 | - | - | - | - | - |
| Roche Urisys | 10 | - | - | - | - | - | - | 2 | - | - | - | - | 8 |
| Siemens Clinitek 10 / 100 | 5 | - | - | 4 | - | - | - | 1 | - | - | - | - | - |
| Siemens Clinitek 50 | 12 | - | - | 6 | 1 | - | 4 | 1 | - | - | - | - | - |
| Siemens Clinitek 500 | 4 | - | 1 | - | 2 | - | 1 | - | - | - | - | - | - |
| Siemens Clinitek Advantus | 15 | - | - | 5 | 2 | - | 5 | 3 | - | - | - | - | - |
| Siemens Clinitek Status / Status+ | 406 | 4 | 12 | 143 | 134 | 5 | 55 | 48 | 5 | - | - | - | - |
| Siemens Multistix Pro | 3 | - | - | - | 3 | - | - | - | - | - | - | - | - |
| Siemens Reagent Strips | 109 | 2 | 3 | 20 | 46 | 1 | 12 | 25 | - | - | - | - | - |
| Siemens Uristix | 1 | - | - | 1 | - | - | - | - | - | - | - | - | - |
| Uriscan Optima | 2 | - | - | - | - | - | - | - | 1 | - | - | - | 1 |
| UriScan Reagent Strips | 2 | - | - | - | - | - | - | - | 1 | - | - | - | 1 |

## URINALYSIS DIPSTICK–NITRITE

**Specimen UA-2**

| | | *Participant Results* | |
|---|---|---|---|
| ***Method*** | ***Labs*** | ***Negative*** | ***Positive*** |
| ALL METHODS | 716 | 7 | 709 |
| BTNX Rapid Response U120/U500 | 1 | - | 1 |
| Consult Diagnostics Reagent Strips | 2 | - | 2 |
| Consult Diagnostics Urine Analyzer | 3 | - | 3 |
| CTMI CT-120 Urine Analyzer | 5 | - | 5 |
| Diagnostic Test Group Clarity Urocheck | 3 | - | 3 |
| Diagnostic Test Group Clarity Urocheck 120 | 10 | 1 | 9 |
| Germaine Laboratories AimStrip | 2 | - | 2 |
| Germaine Labs AimStrip Urine Analyzer | 2 | - | 2 |
| Henry Schein One Step Plus | 2 | - | 2 |
| Henry Schein Urispec / Urispec Plus | 20 | - | 20 |
| McKesson 10SG Reagent Strips | 4 | - | 4 |
| McKesson 120 Urine Analyzer | 22 | - | 22 |
| Medline 120 Urine Analyzer | 7 | - | 7 |
| Medline Urinalysis Reagent Strips | 3 | - | 3 |
| Moore Medical Urine Reagent Strips | 1 | - | 1 |
| NDC Pro Advantage | 1 | - | 1 |
| Other Dipstick Method | 7 | - | 7 |
| Roche Chemstrips | 39 | - | 39 |
| Roche cobas u 411 | 1 | - | 1 |
| Roche Criterion Analyzer | 2 | - | 2 |
| Roche SuperUA/ChemstripUA | 1 | - | 1 |
| Roche Urisys | 10 | - | 10 |
| Siemens Clinitek 10 / 100 | 5 | - | 5 |
| Siemens Clinitek 50 | 11 | - | 11 |
| Siemens Clinitek 500 | 4 | - | 4 |
| Siemens Clinitek Advantus | 15 | - | 15 |
| Siemens Clinitek Status / Status+ | 403 | 4 | 399 |
| Siemens Multistix Pro | 3 | 1 | 2 |
| Siemens Reagent Strips | 109 | 1 | 108 |
| Siemens Uristix | 1 | - | 1 |
| Uriscan Optima | 2 | - | 2 |
| UriScan Reagent Strips | 2 | - | 2 |

**URINALYSIS –MICROALBUMIN (dipstick only)**

**Specimen UA-2**

| | | *Participant Results* | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ***Method*** | ***Labs*** | ***Negative*** | ***10 mg/L*** | ***20 mg/L*** | ***30 mg/L*** | ***50 mg/L*** | ***80 mg/L*** | ***100 mg/L*** | ***150 mg/L*** | ***+ (4 - 8 mg/dL)*** | ***++ (>8 mg/dL)*** |
| ALL METHODS | 57 | 6 | 43 | 4 | - | - | 3 | - | 1 | - | - |
| Consult Diagnostics Reagent Strips | 1 | - | 1 | - | - | - | - | - | - | - | - |
| Roche Chemstrips | 1 | 1 | - | - | - | - | - | - | - | - | - |
| Roche Micral - 1 minute | 7 | 4 | - | 3 | - | - | - | - | - | - | - |
| Siemens Clinitek Microalbumin | 38 | - | 36 | - | - | - | 1 | - | 1 | - | - |
| Siemens Clinitek Status / Status+ | 5 | - | 4 | - | - | - | 1 | - | - | - | - |
| Siemens Reagent Strips | 1 | 1 | - | - | - | - | - | - | - | - | - |

## URINALYSIS –URINE hCG

### Specimen UA-2

| | Participant Results | | |
|---|---|---|---|
| ***Method*** | ***Labs*** | ***Positive*** | ***Negative*** |
| ALL METHODS | 412 | 7 | 405 |
| Alere Acceava hCG-Urine | 2 | - | 2 |
| Alere Clearview 25 hCG Combo | 1 | - | 1 |
| Alere Clearview hCG Cassette | 3 | - | 3 |
| Alere Clearview hCG Combo II | 1 | - | 1 |
| Alere hCG Cassette | 4 | - | 4 |
| Alfa Scientific Instant View | 6 | - | 6 |
| Beckman Coulter ICON 20 hCG | 3 | - | 3 |
| Beckman Coulter ICON 25 hCG | 20 | - | 20 |
| Beckman Coulter ICON II | 4 | - | 4 |
| BioSign hCG | 1 | - | 1 |
| BTNX Rapid Response hCG | 1 | - | 1 |
| Cardinal Health SP Brand combo | 27 | 1 | 26 |
| Cardinal Hlth SPBrand-cassette | 4 | - | 4 |
| Clarity Diagnostics hCG Combo | 2 | - | 2 |
| Clarity Diagnostics hCG strip/cassette | 11 | 1 | 10 |
| CONSULT diagnostics hCG Cassette | 52 | 1 | 51 |
| CONSULT diagnostics hCG Combo | 10 | - | 10 |
| CONSULT diagnostics hCG Dipstick | 29 | 1 | 28 |
| Consult Diagnostics Reagent Strips | 1 | - | 1 |
| Germaine Laboratories AimStep Pregnancy | 2 | - | 2 |
| Henry Schein One Step | 61 | 1 | 60 |
| Henry Schein One Step Plus | 1 | - | 1 |
| Immunostics hCG Detector-urine | 1 | - | 1 |
| Jant Pharmacal Accutest | 1 | - | 1 |
| McKesson hCG Combo Cassette | 3 | - | 3 |
| McKesson hCG Urine Cassette | 7 | 1 | 6 |
| MediChoice hCG Combi Cassette | 2 | - | 2 |
| MediChoice hCG Urine Cassette | 1 | - | 1 |
| Medline hCG Combo Test Cassette | 9 | 1 | 8 |
| Medline hCG Test Cassette | 4 | - | 4 |
| Moore Medical hCG Urine | 1 | - | 1 |
| NDC Pro Advantage | 1 | - | 1 |
| PEP (Lab Supply) HCG | 1 | - | 1 |
| Polymedco Poly stat hCG | 1 | - | 1 |
| Quidel QuickVue One-Step Combo | 17 | - | 17 |
| Quidel QuickVue One-Step Urine | 35 | - | 35 |
| Quidel QuickVue+ One-Step Combo | 24 | - | 24 |
| Quidel Sofia hCG | 2 | - | 2 |

**URINALYSIS –URINE hCG (cont'd)**

**Specimen UA-2**

| | *Participant Results* | | |
|---|---|---|---|
| ***Method*** | ***Labs*** | ***Positive*** | ***Negative*** |
| Sekisui OSOM - Urine Test | 1 | - | 1 |
| Sekisui OSOM Card Pregnancy | 6 | - | 6 |
| Sekisui OSOM hCG Combo Test | 2 | - | 2 |
| Siemens Clinitek Status / Status+ | 10 | - | 10 |
| Stanbio QuPID | 8 | - | 8 |
| Stanbio QuPID Plus | 2 | - | 2 |
| Stanbio TRUE hCG | 7 | - | 7 |
| Sure-Vue hCG - 25mIU | 2 | - | 2 |
| Sure-Vue hCG-STAT | 8 | - | 8 |

**FECAL OCCULT BLOOD**

| | **Specimen OC-3** | | | **Specimen OC-4** | | |
|---|---|---|---|---|---|---|
| ***Method*** | ***Labs*** | ***Positive*** | ***Negative*** | ***Labs*** | ***Positive*** | ***Negative*** |
| ALL METHODS | 271 | 268 | 3 | 271 | 4 | 267 |
| Alere Clearview iFOBT Complete | 1 | 1 | - | 1 | - | 1 |
| Beckman Coulter Hemoccult ICT | 37 | 37 | - | 37 | - | 37 |
| Guaiac (slide) Test | 157 | 156 | 1 | 157 | 1 | 156 |
| Hemosure IFOB | 30 | 29 | 1 | 30 | 2 | 28 |
| Other Immunochemical FOB kit | 26 | 25 | 1 | 26 | 1 | 25 |
| Polymedco OC Auto Micro 80 | 4 | 4 | - | 4 | - | 4 |
| Polymedco OC-Light iFOB | 8 | 8 | - | 8 | - | 8 |
| Quidel QuickVue iFOB | 5 | 5 | - | 5 | - | 5 |

**2019 M2**
**Urine Sediment Identification**
**SPECIMENS US-3 AND US-4**

CASE HISTORY:

A pregnant 38-year-old female presented for her first prenatal visit. Symptoms included mild fatigue and morning sickness. The patient appeared to be in good health, and the history and physical examination were unremarkable. Several routine screening tests were ordered. A urinalysis was performed, and the results appear below.

Color = Yellow
Appearance = Cloudy

**Dipstick results**:

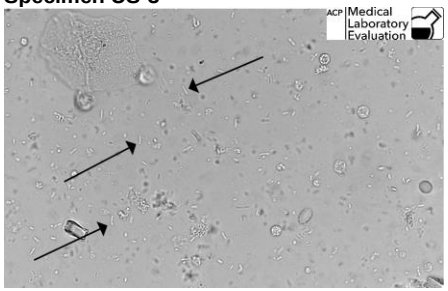
Specific gravity = 1.030
pH = 7.5
Protein = Negative
Glucose = Negative
Ketones = Negative
Bilirubin = Negative
Urobilinogen = Normal
Blood = Negative
Leukocyte Esterase = Small (1+)
Nitrite = Positive

**This patient was diagnosed with an asymptomatic urinary tract infection (UTI).** Asymptomatic bacteriuria (ASB) is a condition in which there is a significant number of bacteria present in the urine, with or without pyuria (leukocytes), but the patient is not experiencing any symptoms of infection. It happens in about 15% of pregnancies, and can progress to symptomatic cystitis or pyelonephritis. Pregnant women are more susceptible to UTI due to physical and hormonal changes. Screening urinalysis and culture are performed early in the pregnancy, and bacteriuria is treated with antibiotics to prevent complications such as preterm labor or premature rupture of the membranes. ASB is common in healthy women and in adults or children with urologic abnormalities associated with impaired voiding. However, screening and treatment of asymptomatic bacteriuria are generally not recommended unless the patient is pregnant or about to have an endoscopic urologic surgical procedure.

.

## Urine Sediment Identification

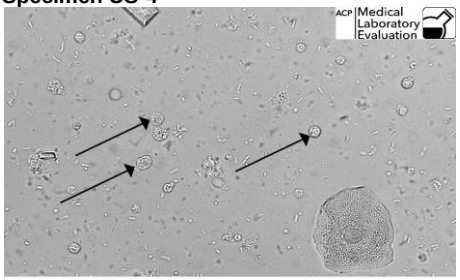
**Specimen US-3**




| Identification | Labs | Percent | Performance |
|---|---|---|---|
| Bacteria | 415 | 98.14% | Acceptable |

**The arrows in this photograph point to bacteria.** Most urinary tract infections are caused by rod-shaped enteric bacilli such as E. coli, Proteus, Enterobacter, and Klebsiella. These pathogens make enzymes that convert nitrate, a urine waste product, into nitrite. A positive dipstick nitrite test is a strong indicator of the presence of a significant number of nitrate-converting bacteria. However, a negative result for nitrite does not rule out the possibility of a urinary tract infection. Not all pathogens convert nitrate to nitrite. In addition, urine must stay in the bladder at least 4 hours for the chemical conversion to take place. E. coli, a nitrite reducer, causes up to 90% of UTIs, however the nitrite test is positive in only 25% of patients with UTI. Frequent urination is a common symptom of UTI, and can cause a false negative nitrite result because the urine has not remained in the bladder long enough for nitrite to form. This is one of the reasons that a first morning specimen is preferred for urinalysis testing. To view another photo of rod-shaped bacteria, see 2016 M3 Specimen US-5. To view a photo of round cocci bacteria, see 2012 M3 Specimen US-6.

**Specimen US-4**




| Identification | Labs | Percent | Performance |
|---|---|---|---|
| White blood cell (WBC) | 406 | 96.44% | Acceptable |

The arrows in this photograph point to **white blood cells.** White blood cells (leukocytes) appear granular due to the nuclear material inside. Red blood cells, like the one near the center of the field, generally appear hollow or empty and are smaller in size than WBCs. White cells are increased in patients with infection of the bladder or kidneys. The white blood cells that respond to infection and inflammation produce enzymes called esterases. When many WBCs are present in the urine, the dipstick turns positive for leukocyte esterase, indicating pyuria – urine containing white blood cells or pus. To view another photo of WBCs, see 2017 M1 Specimen US-1.

**REFERENCES:**

Friel, L.A. *Urinary Tract Infection in Pregnancy.* The Merck Manual Professional Version. Merck Sharp & Dohme Corp., Kenilworth, N.J. Updated Feb. 2019. Available at: https://www.merckmanuals.com/professional/gynecology-and-obstetrics/pregnancy-complicated-by-disease/urinary-tract-infection-in-pregnancy?query=Asymptomatic%20Bacteriuria Accessed June 26, 2019.

Mundt, L.A, Shanahan, K.: *Graff's Textbook of Routine Urinalysis and Body Fluids, 2nd ed.* Philadelphia: Lippincott Williams & Wilkins, 2011.

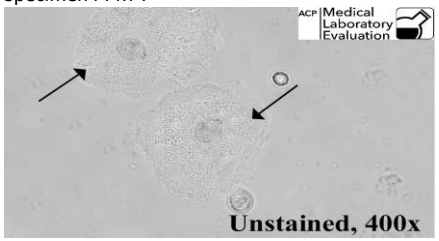
Nicolle, Lindsay E. "Clinical Practice Guideline for the Management of Asymptomatic Bacteriuria: 2019 Update by the Infectious Diseases Society of America." *Clinical Infectious Diseases*, March 21, 2019. doi:10.1093/cid/ciy1121. Available at: https://www.idsociety.org/globalassets/idsa/practice-guidelines/2019-asymptomatic-bacteriuria.pdf

Ringsrud, K. M., Linné, J. J.: *Urinalysis and Body Fluids/ A ColorText and Atlas.* St. Louis: Mosby, 1995.

## PROVIDER-PERFORMED MICROSCOPY (PPM)

**Wet Mount Preparation**

Specimen PPM-7

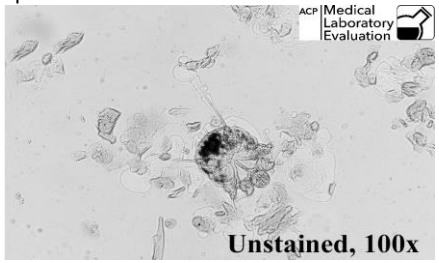



| Identification | Labs | Percent | Performance |
|---|---|---|---|
| Clue cell | 332 | 68.88% | Acceptable |
| Squamous epithelial cell | 145 | 30.08% | |

The arrows in this photograph of a vaginal wet mount point to **clue cells.** Clue cells are epithelial cells covered with bacteria so the cell appears speckled or glittery. Note that the outer edges of the cell are obscured by the bacteria and appear torn or ragged. It is important to differentiate between normal squamous cells and clue cells because squamous epithelial cells are a normal finding, while clue cells are indicative of bacterial vaginosis (BV). To view another clue cell, see 2015 M1 Specimen PPM-1. To view a normal squamous epithelial cell, see 2016 M1 Specimen PPM-1. The specimen PPM-7 is graded to 82% referee consensus

**Scabies Detection**

Specimen PPM-8



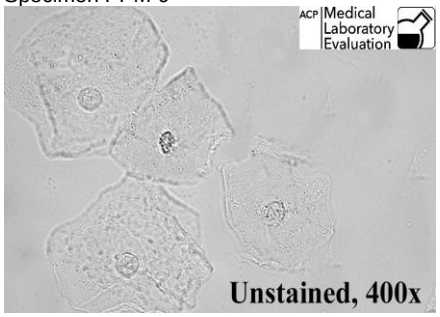

| Identification | Labs | Percent | Performance |
|---|---|---|---|
| Scabies present | 189 | 98.95% | Acceptable |
| Scabies absent | 2 | 1.05% | |

**A scabies mite is present** in this photograph of a skin scrapings preparation. The mites burrow into the skin and produce an itchy pimple-like (papular) rash. The diagnosis of scabies is often made only by the patient history and examination of the skin. Identification of the mite, its burrows, eggs, or feces (called scybala) confirms the clinical suspicion of scabies. Scabies can be difficult to find by laboratory testing, though, because mites are often few in number. The scabies mite, or human itch mite (*Sarcoptes scabiei*), is usually spread by prolonged direct personal contact with an infested person. It can also be spread indirectly by prolonged contact with infested clothing or bedding. There may be only 10-15 mites on the entire body of an infested person who is otherwise healthy, so a negative test does not rule out the diagnosis. To view another photo of a scabies mite, see 2017 M1 Specimen PPM-3.

## PROVIDER-PERFORMED MICROSCOPY (PPM)

### SPERM DETECTION

Specimen PPM-9

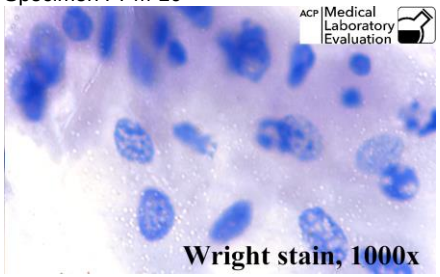



| Identification | Labs | Percent | Performance |
|---|---|---|---|
| Sperm absent | 288 | 99.65% | Acceptable |
| Sperm present | 1 | 0.35% | |

**Spermatozoa are absent** in this photograph of a vaginal wet mount preparation. To view a photo of spermatozoa, see 2017 M3 Specimen PPM-15.

### NASAL SMEAR

Specimen PPM-10



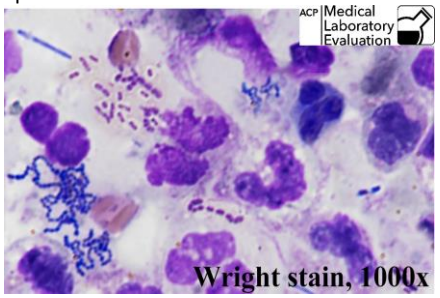

| Identification | Labs | Percent | Performance |
|---|---|---|---|
| Eosinophils absent | 73 | 68.22% | Acceptable |
| Eosinophils present | 34 | 31.78% | |

**Eosinophils are absent** in this photograph of Wright-stained nasal mucus. The cells shown in this photo are not eosinophils. The purpose of examining respiratory secretions for leukocytes (white blood cells) is to differentiate allergic conditions from infections. Eosinophils are a specific type of leukocyte associated with allergic conditions. "Eos" take on a unique red-orange color that makes them easy to spot and identify. The orange color of the eosinophil comes from the dye eosin, which is a component of Wright stain. The cytoplasm of an eosinophil is filled with large, round, orange-staining granules that surround the purple nucleus but do not obscure it from view. To view a photo of eosinophils in a nasal smear, see 2017 M2 Specimen PPM-10. The specimen PPM-10 is graded to 100% referee consensus

## PROVIDER-PERFORMED MICROSCOPY (PPM)

### STOOL PREPARATION

Specimen PPM-11

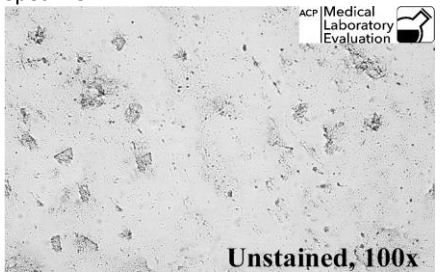



| Identification | Labs | Percent | Performance |
|---|---|---|---|
| Leukocytes present | 166 | 98.22% | Acceptable |
| Leukocytes absent | 3 | 1.78% | |

**Many leukocytes are present** in this photograph of a Wright stained stool preparation. To view another photo of fecal leukocytes, see 2017 M2 Specimen PPM-11.

### PINWORM PREPARATION

Specimen PPM-12




| Identification | Labs | Percent | Performance |
|---|---|---|---|
| Pinworms/eggs absent | 200 | 97.56% | Acceptable |
| Pinworms/eggs present | 5 | 2.44% | |

**Pinworms/eggs are absent** in this photograph of a perianal pinworm preparation. To view a photo of pinworm eggs, see 2017 M2 Specimen PPM-12.

**REFERENCES**:

Fischer, P. M.: *The Office Laboratory.* Norwalk, Conn.: Appleton-Century-Crofts, 1983.

Mundt, L.A, Shanahan, K.: *Graff's Textbook of Routine Urinalysis and Body Fluids, 2nd ed.* Philadelphia: Lippincott Williams & Wilkins, 2011.

Ringsrud, K. M., Linné, J. J.: *Urinalysis and Body Fluids/ A ColorText and Atlas.* St. Louis: Mosby, 1995.

Scabies. In: Parasite Image Library at DPDx Laboratory Identification of Parasites of Public Health Concern. Centers for Disease Control and Prevention (CDC). Available at: http://www.cdc.gov/dpdx/scabies/index.html

**Medical Laboratory Evaluation**
25 Massachusetts Ave NW Ste 700
Washington, DC 20001-7401
800-338-2746 • 202-261-4500 • Fax: 202-835-0440