Dignity Health Central Coast Service Area

**SUBJECT**: Specimen Dilution Procedure 7500.H.CC.32

ORIGIN: Clinical Laboratory/Hematology

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| **Document Category:** | | | |
| Policy | Procedure | Standardized Procedure | Other: |

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| --- | --- | --- |
| **Applies to:** | | |
| Santa Maria Campus,  Marian Regional Medical Center | Arroyo Grande Campus,  Marian Regional Medical Center | French Hospital Medical Center |
| St. John’s Pleasant Valley Hospital | St. John’s Regional Medical Center | |

# purpose:

To provide instruction for performing a dilution on the DxH 800/DxH 600 hematology analyzer. The pre-dilute panel on the DxH 800/DxH 600 is used to analyze diluted specimens that exceed the reportable range in order to get accurate results. The pre-dilute panel is abbreviated *PREDIx*5 and provides CBC results via the Single-Tube Presentation.

# Specimen requirements:

Fresh, whole blood: EDTA purple top or pink top.

Allow refrigerated specimens to equilibrate slowly to room temperature (15°C to 30°C) before analysis.

# CALIBRATION:

Calibration to be performed or verified every six months or as needed.

# QUALITY CONTROL:

Refer to Policy 7500.H.CC.5 for quality control procedure.

# procedure:

**NOTE:** Dilution should be used when the result exceeds the measuring range indicated by +++++ on the DxH printout. Refer to Policy 7500.H.CC.31 attachment 2 for list of measuring and operating ranges.

1. Obtain specimen diluent from an instrument.
   1. Select the Single-tube Presentation icon at the top of the screen to display the Single-tube Presentation Dialog Box.
   2. Select the Dispense Diluent button. Answer yes to the first query.
   3. Place empty aliquot tube into the left side Single-tube position.
   4. Instrument will dispense approximately 1mL of diluent into the tube.
2. Dilute patient specimen using 200µL of diluent and 50µL of sample into a properly labeled tube.
3. Test the diluted patient sample.
   1. Select the Single-tube Presentation icon at the top of the screen to display the Single-tube Presentation Dialog Box. The Single-tube Presentation requires 165 µL for analysis.
   2. Barcode the specimen into the instrument.
   3. Under Specimen Type select Whole blood.
   4. Under the Available Panels box select **PREDIx5**.
   5. Insert the pre-diluted specimen in the correct single-tube position.
   6. Remove tube when completed.
4. The instrument will automatically calculate the results.
5. Review results and compare to undiluted specimen results.

# INTERPRETATION OF RESULTS:

1. The calculated results can be transmitted to LIS.
2. Follow review criteria to determine if specimen requires a smear, manual differential, or pathology review. Smear is to be prepared from the undiluted specimen.
3. Confirm that the dilution was properly prepared and repeat any suspicious results or results with “delta” flags as determined by the LIS.

# RESULT REPORTING:

1. The instrument calculates the pre-diluted specimen using five as the dilution factor. Results do not require any other calculation when the *PREDIx5* panel is used.
2. Review the results to ensure that the appropriate results have crossed the interface. Verify accuracy of calculated results. Ensure the only the calculated CBC results are selected.
3. Add a result comment (and an additional result note if necessary) to document the testing was performed on a diluted sample and any other methods/actions used to resolve the high linearity flag.
4. Select VERIFY when complete.

# references:

**UniCel® Series with System Manager Software**. B26647AC (July 2015)

**UniCel® DxH 800 Coulter® Cellular Analysis System,** Instructions for Use PN 629743AG

(November 2010) System Manual.