Lab Procedure   
Dignity Health Central Coast Service Area

**SUBJECT**: Saline Replacement for Lipemic Specimens

**ORIGIN**: Clinical Laboratory

**NUMBER**: 7500.H.F.51

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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 explain how to replace heavily lipemic plasma with saline to obtain valid hemoglobin and indices result on the Beckman DxH analyzers.

# PRINCIPLE:

Severe lipemia is a known interference that can falsely elevate a HGB result obtained from the colorimetric hemoglobin method. By replacing the pink-white, lipemic plasma with the colorless saline, the color interference is removed.

# SPECIMEN REQUIREMENTS:

EDTA whole blood

# SUPPLIES, REAGENT, AND EQUIPMENT:

## Ensure the Beckman analyzers have appropriate reagents before the beginning of each shift.

## 9% physiologic (Blood Bank) Saline

## Disposable pipettes

## Centrifuge

# Procedure:

## Run the patient specimen through the analyzer, saving the printout for further evaluation.

## Spin down an aliquot of EDTA.

## Remove a measured volume of the lipemic plasma and replace this with the exact amount of physiologic saline obtained from the blood bank using due care so as to not disturb the white cell layer.

## Mix the saline replaced specimen well and rerun through the analyzer in manual mode.

## Result the WBC and platelet count with results obtained from the primary run

## Result the new hemoglobin, hematocrit and RBC count from the saline replacement.

## Correct the indices as follows:

### Hemoglobin – Obtain from the saline replacement run and enter into the LIS

### Hematocrit – obtain from the saline replacement run and enter into the LIS

### Use the following formula to correct for MCH = Hgb/ RBC x10

MCHC = Hgb/Hct x 100

# REFERENCES:

### CAP Today. Richard Savage, ED. July 2004. [www.cap.org](http://www.cap.org)

### Owens, Regina MT, Advance Examines what could go wrong with a complete blood count. Advance for Medical Laboratory Professionals. 2013.