# LH CALIBRATION

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| ☐ St. Joseph Medical Center, Tacoma, WA | ☒ St. Anthony Hospital Gig Harbor, WA | ☐ Harrison Medical Center, Bremerton, WA |
| ☒ St. Francis Hospital, Federal Way, WA | ☐ St. Elizabeth Hospital Enumclaw, WA | ☐ Harrison Medical Center, Silverdale, WA |
| ☒ St. Clare Hospital Lakewood, WA | ☒ Highline Medical Center Burien, WA | ☐ PSC |

## PURPOSE

To outline the steps and reasons for the calibration of the LH Series hematology analyzers using Beckman Coulter S-Cal.

## REAGENTS AND EQUIPMENT

Beckman Coulter LH series hematology analyzer
Beckman Coulter S-Cal Calibrator Kit Ref 624519 or 179310
Two normal patient samples for Carryover study
Three empty 12x75mm vacutainers for Carryover study

## QUALITY CONTROL

Beckman Coulter 5C- Normal and Abnormal I

**INSTRUCTIONS-** When to perform calibration:

1. At installation
2. When indicated by quality control data
3. After major maintenance or service
4. When recommended by the manufacturer
5. At least every 6 months
6. When average temperature in lab varies by more than 10ºF

## Prior To Calibration

1. If instrument performance is questionable, perform a reproducibility and run carryover according to Beckman Coulter protocol. If either does not pass, do not proceed with calibration. Begin troubleshooting.
2. Evaluate individual aperture performance by reviewing recent individual aperture counts for voteouts- use the Patient Results screen, CBC data tab. If aperture voteouts are seen, bleach aperture baths according to Beckman Coulter protocol or begin other troubleshooting.
3. Perform Shutdown per standard protocol
4. Perform Startup per standard protocol.
5. Run Latron, 5C, Retic C and ensure they are within acceptable limits.
6. Check Diluent and Lyse III levels- there needs to be enough to complete the calibration process.
7. Take S-Cal out of refrigerator. Allow to equilibrate at RT for 15 minutes.
   Perform Carryover testing per standard protocol and **PRINT** out results for documentation package (see below).
   Load calibration values from disk or from SCal package insert (on Instrument Calibration Setup screen)
8. Select the correct S-Cal lot and **PRINT** Pre Calibration Instrument Calibration Setup screen
9. Select S-Cal lot that is to be used and **PRINT** Pre Calibration Report screen for documentation package.
10. Clear the previous calibration table, if not already cleared.
    Set LH Default type to C (CBC)
    Set LH Process type to Calibration (calibration screen background should be green colored)

11. Mix S-Cal 8x8x8, two times
12. Make sure blood detectors are on
13. Set aspirations to 11

**Calibration**

1. Run S-Cal
2. Evaluate results using the Beckman Coulter recommendations outlined in the LH750 manual.
3. If any parameters are outside expected limits, consult with supervisory personnel or Beckman Coulter before proceeding.
4. If any parameters are to be calibrated, consult with supervisory personnel before calibrating, if possible. If prior consultation is not possible, leave a copy of the calibration paperwork for supervisory review at the earliest possible opportunity.
5. To change calibration factors, make sure there are check marks in the columns below those tests.
6. **PRINT** CBC Post Calibration Report screen for documentation package.
7. If any cal factors need to be changed, set Analyzer to receive new factors
    a. Main Menu
    b. Analyzer Functions
    c. Calibration
    d. Receive Average Calibration Factors
8. Transmit factors from Calibration screen- Click on Adjust Calibration (in the right margin)
9. **PRINT** Post Calibration Instrument Calibration Setup screen for documentation package.

**Post Calibration**

1. Set Default back to CD (CBC with diff)
2. Set Process Type to Auto Analysis
3. Set aspirations back to 1
4. Clear the calibration table
5. Run both levels of 5C to verify calibration if any cal factors were changed

**Calibration Documentation Package-** staple together and leave for supervisory review.

1. Reproducibility printout (if performed)
2. Carryover printout
3. PreCal CBC Calibration Report
4. PreCal Calibration Instrument Setup screen
5. Post Cal CBC Calibration Report
6. Post Cal Calibration Instrument Setup screen
7. Copy of SCal package insert
8. Copy of valid QC results done Post Calibration

**REFERENCES**

Beckman Coulter S-Cal Calibrator package insert, PN623341-FB, Rev. 2009
Beckman Coulter LH750 On-line Manual, software version 2D1