Name of Procedure:

Mettler Balance (Model Toledo PG5002S, Toledo XS6002S and Toledo PM4600)

Suggested Uses:

Record received and returned weights of evidence exhibits.

Apparatus Used to Perform Procedure:

Mettler Models: Toledo PG5002-S, Toledo XS6002-S, and PM4600
Weighing boats
Paper, boxes, plastic bags or other appropriate weighing vessels

Calibration:

1. Calibration for all Drug Chemistry Section balances is done on a yearly basis by an approved outside contractor.

2. Certificates of Calibration issued by the contractor will be stored in a file in the Section Conference Room.

Calibration Verification:

1. Balances assigned to individual chemists will have a monthly balance verification performed using the set of standard weights located in the cabinet in Room 4320.

2. Individual balance verifications are to be performed as follows:

    a. Turn on the balance.
    b. Follow manufacturer's recommendations for leveling.
    c. Zero the balance with nothing on the pan.
    d. Place the standard weight on the pan and read results.

The following chart lists the weights to be used and the acceptable ranges:

Model Toledo PG5002S, Toledo XS6002S
Standard Deviation (0.008g)
Acceptable range = 3 x (Standard Deviation) = +/- 0.024g

Standard Weight	Acceptable Range
1000 gram	999.97g – 1000.02g
100 gram	99.97g – 100.02g
10 gram	9.97 – 10.02g
1 gram	0.97 – 1.02g
0.1 gram	0.07 – 0.12g

Model PM4600 **(Standard Deviation 0.03g)**

Standard Weight	Acceptable Range
1000 gram	999.97g – 1000.03g
100 gram	99.97g – 100.03g
10 gram	9.97g – 10.03g
1 gram	0.97g – 1.03g
100 milligram	0.07g – 0.13g

If results are within the range listed, the balance can be used for casework. If the results are outside these parameters, the balance will not be used until all necessary steps have been taken to bring the balance into compliance. Steps may include cleaning, leveling, re-taring, or contacting an approved service contractor.

3. Results of calibration verifications will be documented as follows.
   Open FLAIR software and click on:
   - •Resource Manager
   - •Raleigh Lab
   - •Drug Chemistry
   - •Balance
   - •Balance - Then double click on the appropriate serial number
   - •"Add History Item" tab
   - •"Performed Action" box –
     -Choose "Performance Verification" <u>for monthly check</u>
     -Choose "Calibration" <u>to document the yearly calibration by the contractor</u>
   - •"Date of Action" box – choose appropriate date
   - •"Comments" box – **Record the actual readings obtained for each one of the standard weights used in the monthly verification**.

(This step is not necessary for the yearly calibration. This information is located on the issued certificate.)

4. The chemist assigned to the balance is responsible for performing the monthly calibration verification and documenting the results in FLAIR.

Application of Procedure on Evidence:

1. Choose desired units of measure according to balance instructions.

2. Tare the weighing boat or other weighing vessel that will hold the evidence.

3. Remove evidence from packaging material, if possible, and place in/on a tared container.
   Place a note in the case file if gross weights are recorded.

4. Record in the case notes worksheet the weight of the evidence received to the hundredths place.
   Note: If the balance does not read to the hundredths place due to units chosen (example the bulk balances), or due to the quantity of material being weighed, record in the case notes worksheet the weight to the tenths place and truncate to the whole number on the laboratory report.

5. For returned weights, replace the weighing boat or other weighing vessel back on the balance without taring. Record the weight in the case notes worksheet of material to be returned to the same number of decimal places as the weight received, if possible.

Safety Concerns:

Make sure balance is plugged in and is not near a source of water.

Literature References:

Operator Manuals for each balance model.

Moffat, A. C. Ed., **Clarke□s Isolation and Identification of Drugs**, 2nd. Ed., The Pharmaceutical Press, 1986.