Steps for Therapeutic Drug Monitoring (TDM) at Madison Clinic

1. Determine necessity of TDM
    a. Consult with Clinical Pharmacist
    b. Determine which samples to draw (i.e. trough, peak)

2. Page Medicine Laboratory Resident **(Done by Provider or Pharmacist)**
    a. Pager: 598-6190
    b. Explain purpose of PK sampling
    c. Identify where samples are sent (Send-outs go to various labs)
    d. What color tube and sample volume
    e. Storage specifications

3. Alert nursing staff (Triage)
    a. Write nursing lab order/toxicology order

        Necessary information to collect and record on order form:
        (samples cannot be drawn if any information is missing)

        - Tube size and color
        - Drug(s) name
        - Type of sample (trough, peak, random)
        - Time of last dose (usually previous days dose)
        - Time of blood draw (recorded by nursing)
        - Time of current ARV dose (if peak samples are drawn)
        - Instructions for lab (Send-out)

*Often patients may need to return to clinic to get TDM sampling done. They should be informed of the following:

a. Samples need to be drawn with respect to timing of dose. If they take a once a day drug at 0900, then trough sample needs to be drawn as close to that time as possible. Please arrive at the clinic ½ hour before the scheduled blood draw.
b. Maintain their same routine. Most medications are taken with food. Keep administration characteristics constant.
c. Alert the staff if previous day's dose was missed. Do not draw sample.

Concentrations values:

Cmin (trough) – viral efficacy, ARV failure
Cmax (peak) – ARV toxicity, extent of absorption

References:

Gerber JG, Acosta EP. Therapeutic drug monitoring in the treatment of HIV-infection. J Clin Virol. 2003 Jul;27(2):117-28

Kappelhoff BS, Crommentuyn KM, et al. Practical guidelines to interpret plasma concentrations of antiretroviral drugs. Clin Pharmacokinet. 2004;43(13):845-53.