Urinalysis and Body Fluids

Overview of Body Fluid Analysis

- Urine is the most routinely tested body fluid.
- Other body fluids are tested only when a pathology is suspected.
  - Volume of BF (other than urine & CSF) are usually too low to obtain sample.
- Exams: physical, chemical & morphological

Overview of Body Fluid Analysis

- Routine testing should take only a few hours at most.
  - These fluids deteriorate quickly
  - Results often needed asap to begin therapy.
Laboratory Responsibilities

• Provide accurate & timely results
  • Immediate notification of any results deemed "critical or life threatening. (These are often referred to as "Panic Values"
    • Warrant a phone call to appropriate area and person
    • Be sure to clearly identify yourself, identify the patient, and state the results
    • Be sure to note or document the date, time, person’s name (and position) whom you phoned the results.
  • The written results should then be sent ASAP.

Laboratory Responsibilities

• Other Laboratory responsibilities
  • Serve as a source of information
    • Laboratory operation hours
    • Test normal / reference values
    • Reliability of test results
    • The effects of medications or treatments
    • Proper specimen collection
    • Special handling requirements
      • chill, protect from light, etc.
    • Turn around Times (TAT) for tests

Examination of Body Fluids

• Laboratory departments involved in Body Fluid testing
  • Hematology
  • Clinical chemistry
  • Microbiology
  • Cytology / Pathology
Examination of Body Fluids

• Hematology
  • Physical characteristics
    • color / appearance
    • clarity / transparency
    • volume, etc.
  • Morphological elements
    • Structures seen under the microscope
      • Cells
      • Microorganisms
      • Crystalline elements
      • Other structures

• Clinical Chemistry
  • Chemical analytes
    • Glucose
    • Protein
    • others?

Overview of Body Fluid Analysis

• Microbiology department
  • Specimens collected in sterile containers
  • Process and send to department stat.
    • Sample must not have been contaminated
    • Quick / stat processing necessary
      • To make sure that the amount of microorganisms present is representative of current level of infection in the patient. (bacteria continue to grow outside of the body)
      • Patient treatment may be delayed.
Overview of Body Fluid Analysis

• Cytology / Pathology
  • Unusual / suspicious cells

• Ancillary studies
  • Any special / non-routine tests needed.
  • Some may be done 'in-house' others sent to reference laboratory.