

## LABORATORY EQUIPMENT & SAFETY



### **Blood Work**

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## The Role of Laboratory Testing in Patient Care

- **Laboratory analysis:**
  - detects disease
  - confirms or contradicts diagnosis
  - determines & monitors medication dosage



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## Types of Laboratories

- **Reference laboratory**
  - technological resources
  - complete range of tests
  - frees office staff for patient care
  - managed care contracts
- **Physician's office laboratory (POL)**
  - limited range of tests
  - quick turn around
  - patient convenience



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## POL

- Processes specimens for:
  - chemical analyses
  - hematologic tests
    - whole blood
    - count, size, shape of blood cells
  - microbiologic tests
    - pathogenic organisms
    - urinalysis
      - physical, chemical & microscopic analysis



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## Medical Assistant's Role...

- Preparing patient
- Collecting sample
- Completing test
- Reporting results
- Communication between physician / patient



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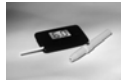
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## Laboratory Equipment

- Centrifuge
- Microscope
- Photometer
- Pipettes
- Volumetric / graduated beakers
- Hemocytometer
- Thermometers



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## Laboratory Safety



- Occupational Safety & Health Administration (OSHA)
- Centers for Disease Control (CDC)
- Universal Precautions
- Hazard Communication Standard
- Biohazard Labels
- Material Safety Data Sheets (MSDS's)
- Hazard Labels

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## OSHA Bloodborne Pathogens Standard



- Identifies:
  - procedures to prevent occupational exposure
  - procedures to follow in event of exposure
- Requires:
  - OSHA Exposure Control Plan
  - Training
  - Employer must make HBV vaccine available

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## Hazardous Waste Disposal

- Sharps:
  - NEVER:
    - bend
    - break
    - recap



- Biohazardous waste:
  - clearly labeled plastic bags
  - containers located where waste generated

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## Accident Prevention

- Physical safety
- Fire & electrical safety
- Chemical safety
- Biologic safety
- Housekeeping
- Accident reporting:
  - Written procedures
  - OSHA requirements: cleansing of area, notification, documentation, medical evaluation, written evaluation



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## Quality Assurance Programs

- Clinical Laboratory Improvement Amendments of 1988 (CLIA '88)
- Certificate of Waiver Tests:
  - insignificant risk, simple, FDA approved for home use: UA, HCG, ovulation, ESR, Hgb, blood glucose, fecal occult blood,
- Level I Tests:
  - moderate complexity, blood cell counts, cholesterol screening, bacteriology, mycobacteriology, mycology, parasitology, virology, immunology, chemistry, hematology, immunohematology
- Level II Tests:
  - high complexity, cytogenetics, histopathology, histocompatibility, cytology

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## Quality Control & Maintenance

- Ensure accuracy in test results
- Calibration
- Standard
- Control Samples
  - qualitative
  - quantitative
- Reagent Control
- Maintenance
- Documentation



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## Communication

- Test results
- Record keeping...if its not documented, it wasn't done!
- Use approved abbreviations:
  - QNS            quantity not sufficient
  - TNTC        too numerous to count
- Specimen identification



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