**UW Medicine - Pathology**

400-07-01-02

Instrument Operation and Safety

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| Adopted Date: 08/91  Review Date: 09/05  Revision Date: 08/12 |

PURPOSE

To maintain safe operation of laboratory instruments. Employees must be trained to safely use all of the lab instruments before initial independent use. References for the proper use of instruments are located in the manufacturer’s operating manuals located in the top drawer of the filing cabinet outside of the supervisor's office. (Upper right drawer). One page flow charts will be available for some of the instruments.

All employees that might, in the course of their work, be exposed to a potentially harmful instrument environment should be trained on all of the following instruments with attention to the safety guidelines below.

New equipment should be validated (including parallel testing, faculty review and approval) before use. Results of validations are kept in the validation notebook.

PROCEDURE

### Instruments

* + - 1. ***Balances:*** All balances should be protected against temperature variation, vibration and humidity. Knife edges must be smooth and the pans cleaned. Clean balance after every use. All balances should be checked and serviced annually (University of Washington Scientific Instrument Division, (206) 543-5580).
      2. ***Centrifuges:*** Each centrifuge must be kept clean by wiping the inner surface once a week with dilute bleach followed by H2O and 70% ethanol or stainless steel cleaner as needed. Condition is maintained by an annual maintenance program providing for regular lubrication, changing of brakes and brushes and detection and replacement of worn bearings (Scientific Instrument Division, (206) 543-5580).
      3. ***Incubators:*** Each culture is split among 2 or 3 incubators. The temperature and CO2 percentage is recorded daily on the green incubator record sheets located on or near each incubator. Record sheets are reviewed monthly and compiled in the Equipment Records notebooks.
      4. ***Gel Transillumination Box:*** Training should include using eye shields for UV light safety.
      5. ***Microscopes:*** Yearly ergonomic training is required by state law and is done as a part of new employee orientation. Specific microscope-related ergonomic training is done by the Cytogenetics training personnel for new technologists. Training is also done to ensure employees minimize the risk of eye damage from fluorescence and bright-field light sources. Maintenance and repair is done by the Optical Division of UW Scientific Instruments (616-5176)
      6. ***Biosafety Hoods (BioGard):*** (Also called Biological Safety Cabinet or Laminar Flow Hood) The University’s Biological Safety Committee requires all active cabinets to be certified prior to initial use, following a move and annually thereafter. Environmental Health and Safety (543-0465) provides the testing and certification service for all UW Cytogenetics cabinets. Tests are performed in accordance with the National Sanitation foundation Standard 49, Class II Laminar Flow Biohazard Cabinetry. Regular maintenance is done by UW Scientific Instruments (543-5580) but needs to be coordinated with Environmental Health and Safety and the Cytogenetics lab. Employee training includes information about limits of protection from infectious agents.
      7. ***Ultra-low Freezer:*** The air vent, located in the bottom shelf, left front area, should be cleared of ice monthly so that air pressure can be equalized. If the vent is allowed to freeze over, a vacuum can lock the door shut. If the door is vacuum sealed use caution-door can open suddenly! Wait for door to open, walk away, and listen for beep. A 6” labeled metal pry bar is just to the right of the freezer if needed. Filter should be cleaned monthly by lab technologist. Optimum temperature is –72 °C (+/-3 °C)
      8. ***Waterbaths:*** Waterbaths should be inspected for safe operation biannually by Scientific Instruments. Technologists should clean them at least every 4 months. Care should be taken to always have sufficient water in the bath and to turn off at night.
      9. ***Thermotron:*** These specialized hoods are for maintenance of temperature and humidity for slide making. Training consists of instruction of how to turn on and off and the creation and activation of optimized programs. The complete operating manual is found in the manual drawer outside AA108E.
      10. ***Robotic Harvester:*** (Hanabi P-II) For harvesting neoplasia and blood (suspension) cultures. Cultures must be free of clots. Laminated instruction cards are found in the drawer in room NW125G. The complete operating manual is found in the manual drawer outside room AA108E.
      11. ***Multi-prep Genie Robotic Coverslip Harvester:*** For automated harvesting of ST, AF, and CV coverslips. Instructions for use located in the AF,CV and ST procedures as well as detailed workbook located in the laboratory harvest area.
      12. ***GSL Scanner:*** This is used to automatically capture metaphases for G-band analysis. Genetix instructions located online

Written By: Director Approval:

(Signature and Date) (Signature and Date)

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Cytogenetic Supervisor