



CryoBio PACE[®] Straw Machine Operation SOP

Safety Precautions

Exercise Universal Precautions. Latex or nitrile gloves, goggles, and lab coat are required for the entire duration of the procedure.

Equipment and Supplies

Cryo Bio System PACE[®] straw machine
 Cryo Bio System control box
 Cryo Bio System goblet with visotubes
 Aspiration nozzles (1/week)
 Injection nozzles (3/ID)
 Blister packs of 0.5 ml pre-labeled CBS[™] straws: red (17/ID), green (9/ID), yellow (20/ID)
 Ice buckets (round and rectangular)
 Disposable lab coat and gloves
 Eye protection
 Straw Label Log Sheet

Preparation

1. Start the Cryo Bio System PACE[®] straw machine by pushing the toggle switch on the back left of the control box to the **On** position. The temperature of the sealing jaws must reach 159 for optimum sealing.
2. Set the counter on the control box to 25.
3. Change the aspiration nozzle weekly or as necessary if the straw machine no longer draws a vacuum.
4. Set the vacuum adjustment on the straw machine as follows:
 - Urine -- set vacuum at 1 - 1.5.
 - Serum/Plasma -- set vacuum at 2 - 3. The necessary vacuum setting will vary from specimen to specimen, so fill volumes need to be monitored very carefully. Specimen aliquots should touch the fiber plug at the end of the straw, but not dampen the plug completely.

Transferring specimen into straws

1. Transfer a rack of specimens from the refrigerator to a rectangular box. Surround the rack with ice packs. Specimen types will correspond to the following straw plug colors:
 - Yellow Plug = Urine from the Urine #2 tube
 - Red Plug = Serum from the Amber tube
 - Green Plug = Plasma from the RIA tube
2. Select one of the specimen tubes. Grab a blister pack from the bin by your workstation with straw plug colors that correspond to the specimen type being processed.

3. Place one of the two sample ID labels from the selected blister pack on the Straw Label Log Sheet. Write the subject ID in the column next to the sample ID label. Place the second label on the original tube of the sample that you are processing.
4. Estimate the number of straws to be filled based on the specimen volume. Each milliliter of specimen will require two straws. Add one straw to the hopper for each estimated half milliliter of specimen.
5. Place the sample in the specimen tube holder. Insert the injection nozzle tubing completely into the specimen tube. It should reach the bottom of the container. Load the hopper with the predetermined number of prelabeled straws of the appropriate plug color for the material type. Be sure that the straws drop to the bottom of the hopper and are parallel to the filling platform with the plug on the left.
6. Press the **Start** button on the control box. Be sure that the specimen fills the straw to the needed amount as indicated by the wetting of the plug polymer. Adjust machine vacuum settings from above as needed. Only $\frac{1}{2}$ or less of the polymer should be wet.
7. Fill as many straws as specimen volume allows. Serum and plasma straws should be at least one-eighth full. Quarter-filled straws are acceptable for urine aliquots. When the last straw has finished, press the stop button and reset the counter to 25. (Note: The counter should reset itself automatically.)
8. Remove and discard all unused straws from the straw machine and blister pack. Remove the used injection nozzle and specimen tube from holder. Discard all contaminated materials into biohazard.

Shut down

1. To shut down the Cryo Bio System straw machines at the end of the day, push the toggle switch on the back left of the control box to the **Off** position.
2. Allow the metal shields on the straw machines to cool.
3. Clean the straw machines daily with alcohol. Replace the dust covers.

Quarterly Maintenance

1. Use an Allen wrench to tighten the eight hex screws on the straw machine on a quarterly basis (January, April, July, and October) or when they become loose.