

Standard Operating Procedure			
Pipettes			
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Subject: Pipettes			

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1.0 POLICY

This standard operating procedure (SOP) describes the proper pipetting technique to reduce the generation of aerosols while working in the W.J. Henderson Centre for Patient-Oriented Research (WJHCPOR).

2.0 PURPOSE

To ensure that all users of the WJHCPOR can safely use the pipettes to manipulate potentially infectious biospecimens and reduce the risk of infection.

3.0 DEFINITIONS

Aspirate - to draw liquid up into the pipette tip.

Blow Out - the piston moves to the lowest position in order to blow out the residual liquid from the pipette tip. During pipetting operations, the liquid from the blow out is part of the dispensing volume.

Dispense - to discharge the liquid from the tip

4.0 RESPONSIBILITY

Users are responsible for:

- Attending orientation and training on the use of pipettes prior to use.
- Taking proper care of the pipettes according to specified use guidelines as set out by this SOP and the manufacturer.
- Reading and following all instructions for usage and maintenance of the pipettes.
- Selecting the appropriate pipette and disposable tips for the research protocol in use.

NOTE: IF AT ANY TIME YOU ARE UNSURE HOW TO USE THE PIPETTES SAFELY, PLEASE REFER TO THE INSTRUCTION MANUAL FOR FURTHER DETAILS AND/OR ASK THE DESIGNATED KGHRI STAFF MEMBER FOR ASSISTANCE.

- Reporting any damage to the pipettes to the designated KGHRI staff member immediately so repairs can be made.
- Wearing appropriate PPE (lab coat, safety glasses, and gloves) when using the pipettes.
- **ALWAYS** pipetting in the biological safety cabinet (BSC).
- **ALWAYS** disposing of the pipette tips (or disposable pipettes) in the appropriate biological waste container.
- **ALWAYS** wiping down the pipettes with an Oxivir® wipe after use.

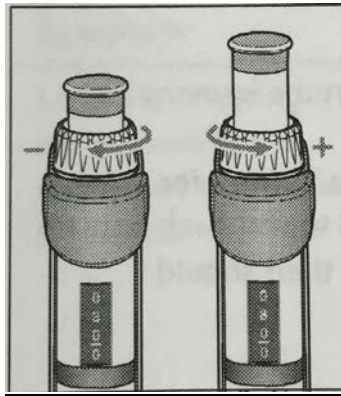
KGHRI is responsible for:

- Training new users in safe usage of the pipettes, documenting the training of all users, and ensuring users are proficient in performing the steps of this SOP.
- Ensuring all copies of user instructions for the pipettes is readily available to all users.
- Ensuring all pipettes used are in good repair, calibrated and decontaminated prior to repair/calibration.
- Ensuring that all the regular and periodic maintenance required is carried out and recorded in the **Maintenance Log**.
- Ensuring the records of repair is kept and available for inspection.
- Providing Oxivir® wipes for users of the WJHCPOR.

5.0 PROCEDURES

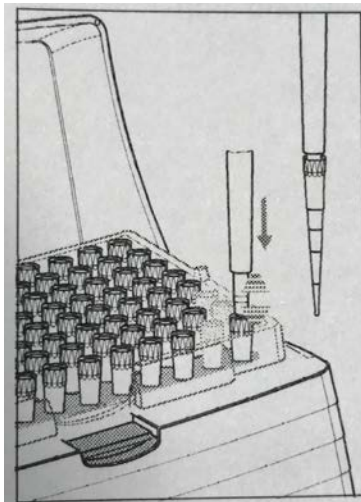
5.1 Setting the Volume

Turn the volume adjustment ring as depicted in the image below to adjust the volume. The height of the control button changes as the volume is adjusted. The numbers on the volume display are to be read from the top to the bottom. The decimal places are below the hyphen. The volume is displayed in μL . The **BLUE** pipette volumes are 100 to 1000 μL . The **YELLOW** pipette volumes are 10 to 100 μL . Adjust the volume setting from a higher value to a lower value. If required, turn beyond the required value and then back again.

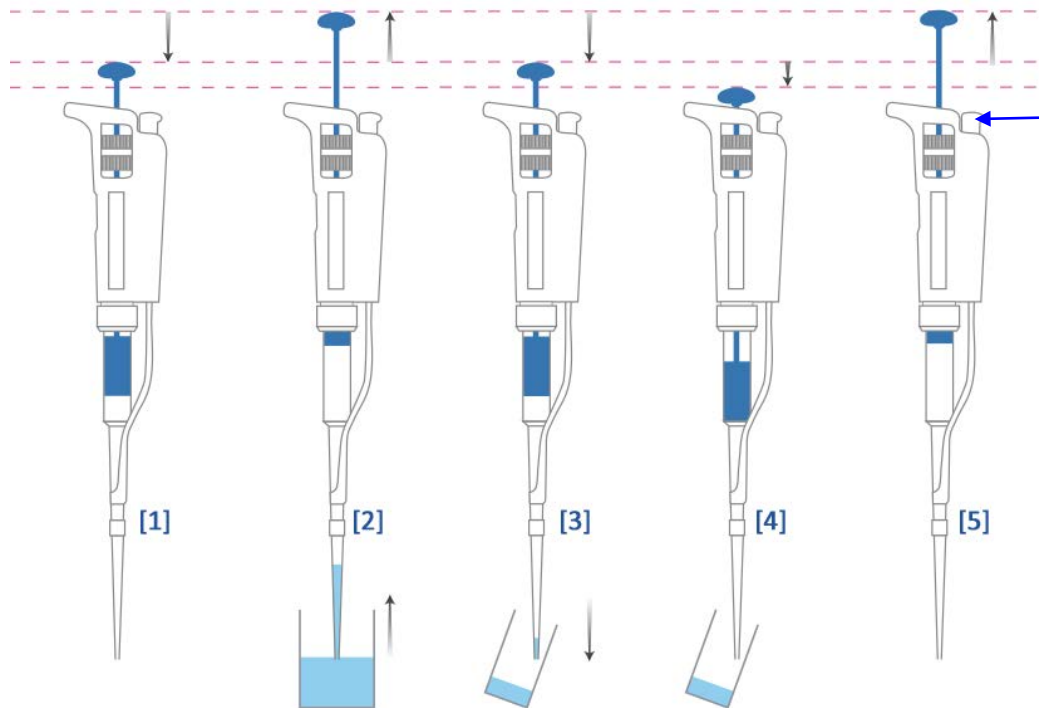


5.2 Using Pipette Tips

The pipette is only functional if a disposable pipette tip is attached. The colour of the control button matches the colour of the ePTIPS tray (blue or yellow) that you need. Fit the suitable pipette tip on the pipette cone, applying light pressure (see image below).



5.3 Aspirating Liquid



Step 1: Press down the control button to the 1st stop

Step 2: Always aspirate sample in the vertical position (approximately 4 mm into the liquid). To aspirate the liquid, allow the control button to slide back slowly. Maintain the immersion depth, so that no air is aspirated accidentally. In the case of large volumes: before removing the pipette tip from the liquid, wait approximately 3 seconds. To ensure maximum precision and accuracy, wet each new tip initially by aspirating and dispensing the liquid one to three times. Only then should pipetting commence. Remove the tip slowly from the liquid. Wipe the tip slowly against the tube wall to ensure that no outer wetting remains on the tip.

Step 3: Place the tip on the tube/cryovial wall at an angle. Press the control button slowly until the first stop and wait until the flow of liquid stops.

Step 4: Pause, and then press the control button until the 2nd stop to eject (blow out) remaining liquid.

Step 5: To eject the tip, press the tip ejector mechanism. Eject tip carefully into the proper biological waste container. A new disposable tip should be used between each specimen tube to prevent contamination.

6.0 REFERENCES

- The Instruction Manual for the Pipettes (Eppendorf Research Plus® Operating Manual; same manual for each pipette) is located in the Research Centrifuge Room (Connell 4, Room 2-4-041) in the binder on the shelf above the centrifuges.

7.0 CONTACTS

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8.0 SOP HISTORY

SOP Number	Date Issued	Summary of Revisions
SOP-P-01	01-DEC-2017	Original version.