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Title:	Use of the Shandon Finesse ME Rotary Microtome.
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SOP History			
Number	Date	Reason for Change	

01/11/2021

1.0 Purpose –

v1

The purpose of this SOP is to outline the principles of the routine use of the Shandon Finesse ME rotary microtome in Laboratory 248 at the St Andrews School of Medicine (SASoM).

Original

2.0 Scope -

This SOP applies to routine use and maintenance of the Shandon Finesse ME rotary microtome within the SASoM.

3.0 Responsibilities -

It is the responsibility of all users of the Shandon Finesse ME rotary microtome within the SASoM to comply with this SOP.



4.0 Procedure –

***** All users are required to be trained and signed off by supervisory personnel before using this equipment. *****

The Shandon Finesse ME rotary microtome is a fully automatic, motorized rotary microtome with a separate control panel specifically designed for creating thin sections of human tissue specimens of varying hardness for histological medical diagnosis, e.g. cancer diagnosis. It is intended for trimming and sectioning freshly embedded FFPE blocks and TMA blocks created in lab 248. Any other use of the instrument will be considered as improper use!

4.1 Integrated safety devices

- Emergency stop function with E-STOP button (Figure 1
- Folding handle (manual operation only)
- Knife locking pin



Folding Handle

Handle folds down for convenience when operating in automatic mode.



Knife Locking Pin

Secures the blade holder to the fixed knife stage.

Emergency Stop

Immediately cuts power to the motor.

Figure 1 Integrated safety devices



4.2. Instrument specification (Figure 2)

This does not have fine orienting head, which means that it cannot be angle simultaneously. Therefore, it should be used for trimming and sectioning TMA (Tissue microarray) blocks created in Lab 248 and embedded in 248 Lab.

It is also recommended to use manually rather than automated function.



4.3 Clamping specimen

The FFPE block is held by the specimen holder seen in Figure 3. This new design of stable specimen advance system incorporates a unique undercarriage support on the drive shaft which stabilises the specimen holder through its full extension.



Figure 3 Clamping specimen (green) in Stable specimen advance system



4.5 Inserting the knife holder

The knife angle position locator allows the user to precisely select an angle for a disposable knife. Once the angle is set and locked, the holder may be removed for cleaning and replaced at the same angle without further adjustment.



4.6 Manual trimming the specimen and sectioning

Using the coarse wheel (Figure 5), the specimen comes forward and backward motions. Set to 'ROCK' mode for manual sectioning. Either Trim or Section mode should be selected according to the purpose of sectioning.



Figure 5 Coarse advance wheel – Rock mode for manual trimming and sectioning.

- Coarse advance wheel (Figure 5) allows the user the option of manually advancing the block to the knife edge.
- Display monitor on the microtome shows cutting speed, section count and section thickness.



4.11 Cleaning and maintenance

- Fold the handwheel handle.
- Switch the unit off and unplug it.

• Remove the blade from the knife holder and either insert it in the receptacle at the bottom of the dispenser or remove the knife from the knife holder and put it back in the knife case.

- Remove section waste with a dry brush.
- Empty the section waste tray.

• Wipe the blade holder and specimen holder with the Lotoxane or histoclear to remove excess of wax.

5.0 Personal protection -

Howie coat must be worn at all times.

6.0 Training –

All users have to be trained before using the Instrument by a designated person.

7.0 Related documents –

- Risk Assessment: CHARM 20176 Serial Sectioning of FFPE blocks.
- SOP: SASoM/EQUIP/108 Leica RM2255 Fully Automated Rotary Microtome.
- Manual for the instrument (available online).



school of MEDICINE

8.0 Approval and sign off -

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STANDARD OPERATING PROCEDURE

Please sign below to indicate you have read this S.O.P and understand the procedures involved.

NAME	POSITION HELD	SIGNATURE	DATE
	X		