



**Document Number:** SASoM/EQUIP/042.v2

**Title:** Use and maintenance of the Axiovert 40 CFL microscopes

**Version:** v2

**Author:** Paul Reynolds

Effective from:	07/02/2018
Valid to:	06/02/2023

SOP History		
Number	Date	Reason for Change
v1	07/02/2013	Original
V2	7/02/2018	Update

### 1.0 Purpose –

The purpose of this SOP is to outline the principles of the routine use of the Axiovert 40 CFL microscopes in Laboratory 248 at the St Andrews School of Medicine (SASoM). There are two such microscopes in Lab 248 which are (currently) located (i) in the microscope room, and (ii) in tissue culture room 248K.

### 2.0 Scope –

This SOP applies to routine use and maintenance of the Axiovert 40 CFL microscopes within the SASoM.

### 3.0 Responsibilities –

It is the responsibility of all users of the Axiovert 40 CFL microscopes within the SASoM to comply with this SOP.

### 4.0 Procedure –

1. Users new to handling microscopes should undergo basic training in how to use a microscope.
2. The Axiovert 40 CFL microscope is an inverted microscope, able to take bright field, phase contrast and fluorescent images. Always maintain the microscope in a good condition and wipe away any spills on the stage immediately with water, then 70% ethanol using white tissue.



3. Always use lens tissue if lens requires to be cleaned.
4. Take care not to damage the objective lenses under the stage.
5. Always switch off the microscope after use.
6. Cover the microscope when not in use but ALWAYS ensure the lamp is SWITCHED OFF before covering.

#### Bright field and phase contrast:

1. Place either microscope slides or cultured cells (flasks/ plates) on the stage. Adjust the phase contrast slider on the top of the microscope for phase or bright field. Use the appropriate objective lens and focus using the side dials.
2. Image acquisition uses the CCD camera and computer program to capture digital images.

#### Fluorescence:

In order to take fluorescence images, the mercury lamp power source should be switched on. Since this is a high energy lamp, it should be run for at least 30 minutes before being turned off and also left for 30 minutes before being turned on again. A sign up book for this lamp must be filled in and the lamp hours recorded. The light selector at the back of the microscope should be shifted to allow this light in and the appropriate filter block used for the desired wavelength of light.

Image acquisition uses the CCD camera and computer program to capture digital images.

#### **5.0 Personal protection –**

Tissue culture room lab coat must be worn at all times when in Lab 248K.

#### **6.0 Training –**

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

#### **7.0 Related documents –**

##### RISK ASSESSMENTS

RA/BIOL/004

RA/GEN/016

RA/COSHH/004



## 8.0 Approval and sign off –

### Author:

Name: Paul Reynolds

Position: Lecturer

Signature: Date:

### Management Approval:

Name: Mary Wilson

Position: Laboratory Manger

Signature: Date:

### QA release by:

Name: Alex MacLellan

Position: QA Manager

Signature: Date:

Confidential