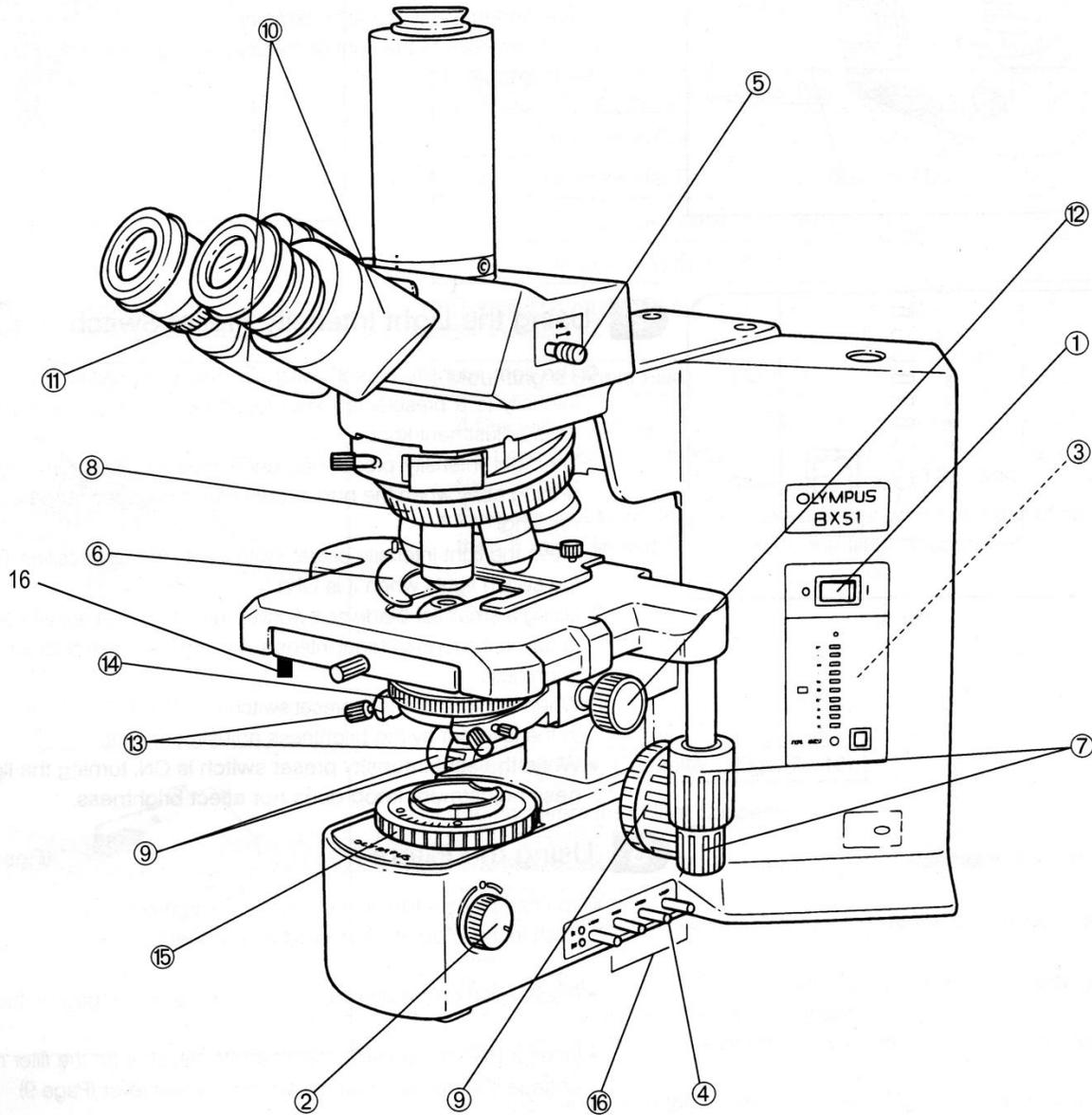


## **BX-51: Brightfield Imaging**



**Schematic of Olympus BX-51.**

### ***Starting up:***

1. Turn on power with black switch on the right side of the base (1). Adjust with the rheostat (2).
2. Rotate the objective turret (8) to the 10x lens making sure that the stage is lowered enough for the lens to easily clear a slide.
3. Place a microscope slide on the stage (6). Focus (9).

### ***Adjusting binoculars for strain-free visualization:***

4. Adjust the interpupillary distance of eyepieces (10).
5. Looking through the eyepieces, locate the sample and turn the focus knob (9) until the tissue appears focused.
6. Close your left eye. Does the sample still appear focused? If not, focus the sample.
7. Close your right eye. Focus the sample for this eye using the adjustment ring on the left eyepiece (11).

### ***Aligning for Koehler Illumination:***

8. Rotate the condenser setting (14) to brightfield (BF). Make sure the filter setting is at BF.
9. Close the field diaphragm (15).
10. Focus the aperture edges by raising or lowering the condenser lens (12-the small knob just below the stage).
11. Open the field diaphragm and center with the small centering knobs (13) towards the front at either side below the specimen stage.
12. Continue to open the field diaphragm so that it is just outside the field of view and the edges disappear at the same time.
13. Set the condenser iris (14) to match the number of the numerical aperture on the objective in use.

### **Brightfield Operation**

14. Rotate the objective turret to the desired lens.
15. Move filter slider to position 6.

### **Spot Camera Operation**

16. Log into computer using your HawkID and password.
17. Turn on Spot Camera power supply.
18. Start the **Spot Basic** software.
19. Make sure the lever on the right side of the trinocular (5) is pulled out to direct light to both the camera and the eyepieces.
20. Under [Setup] click on [Show Image Settings] and select the [Brightfield-Transmitted Light] mode. Under color settings, select [RGB].
21. Click on [Live]. After a few seconds you should see an image. Focus as needed.
22. Slide the color filter lever (on camera) to the right.
23. Correct for white balance by choosing [compute white balance values] icon. Move to an area of the slide without tissue and follow the instructions.
24. Click on camera icon to freeze image.
25. Save the image to a thumb drive or your healthcare account.

\*\*\*\*\*IMAGES LEFT ON THE HARD DRIVE WILL BE DELETED WITHOUT NOTICE\*\*\*\*\*

### **To add a micron bar:**

26. Go to [edit].
27. Choose [Add/Edit calibration marks].
28. Choose the objective you are using from list.
29. Adjust the settings for how you wish the micron bar to look (color, size, thickness, etc.).
30. Choose [new].
31. Move cursor to image, place it and click.
32. Close menu.

### **Cleaning lenses:**

33. Use ethanol, Sparkle, or a commercial lens cleaner.
34. Use only lens paper or cotton-tipped applicators (DO NOT USE: Kim-wipes, paper towels or steel-wool)☺
35. Saturate a clean applicator with solution.
36. Touch the wet applicator to the center of the lens and wipe, spiraling outwards.
37. Repeat with a clean, dry applicator.

***Note: Oil lenses should always be cleaned after usage and occasionally even dry lenses accidentally come in contact with an oil-saturated coverslip. The lenses in question are very expensive and easily damaged. It is essential that proper procedure is observed when cleaning these lenses.***