



# BASIC MICROSCOPY CONCEPTS

PARFOCALITY ADJUSTMENT  
FOR UPRIGHT MICROSCOPES





## PARFOCALITY ADJUSTMENT

### FOR UPRIGHT MICROSCOPES

Parfocality is a property of the optical components that allows the microscope to stay in focus when changing between lenses of different magnification.

This means that when the objectives of a microscope are changed from higher to lower magnification or vice versa, the sample you are viewing stays in focus.

This is important especially when taking photographs or making videos using a microscope and a camera. If the parfocality is not adjusted, the camera will not be focusing correctly, even if the image seen through the eyepieces is in focus.

**To ensure the correct parfocality adjustment of your microscope, just follow these easy steps:**

**(1)** Adjust the interpupillary distance so that both the right and left field of view become one.

**(2)** Set the diopter adjustment on both eyepieces (or on eyepieces tubes) on the “0” position.

**(3)** Select the lowest magnification objective and focus the image of the specimen with the help of the coarse/fine focusing knobs, using only one eye.\*  
*\*Use the eye with which you're most comfortable with.*

**(4)** Once you obtain the best possible focus, close the eye you just used and use your other eye for the next steps.

**(5)** Correct the focus for the second eye by using only the diopter adjustment.

*Important: In this case do not use the coarse/fine focusing knobs.*



**(6)** Now select the highest magnification and repeat the procedure to match the sharpness for higher magnification.

**(7)** Keep this final diopter position for all magnifications/lenses. The diopter position of each user is different, for this reason you might want to take note of your graduation (from the scale), for easier resetting.

**(8)** The focus of the image should now be constant as you move to higher or lower magnification (parfocal).

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Designed in Barcelona (Spain) November 2016

