





Title: Laboratory
Manual to accompany
Seeley's Anatomy &
Physiology, 12e

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- Exercise 1—Minor edits made to the text for clarity; revision of dependent and independent variables; changed MRI of head and modified sectioning plane photograph; deleted the term 'parasagittal plane'; added a bar graph in the Review section on data on resting heart rate, for student completion
- 2 Exercise 2—Added additional label to microscope illustration; minor revisions to 'Using the Microscope' section
- 3 Exercise 3—Updated figure 3.9 Osmosis Demonstration photo for clarity; new figure 3.12 illustration for Filtration
- 4 Exercise 4—Added more prominent lines to indicate cell membranes in several epithelial photographs; removed 'Cell Connections' section; added more photographs to be filled in; and added a place for student drawing in the Review section





New Features You'll See in Wise's Laboratory Manual to accompany Seeley's Anatomy & Physiology, 12e

- **Exercise 6**—Made changes to highlight axial and appendicular skeleton in figure 6.1
- 6 Exercise 7—Changed 'coxal' and 'innominate bone' to 'hip bone'
- 7 Exercise 8—Changed 'cornu' to 'horn' for hyoid bone; described true and false ribs; and deleted terms 'vertebrosternal' and 'vertebrochondral'
- 8 Exercise 9—Modified text for better understanding; additional labeling on several figures
- 9 Exercise 10—Minor changes in text for clarity; added a figure illustrating skull sutures; added a question on pronation of the feet in the Review section
- Exercise 11—Made changes in text for clarity; changed the term 'summation' to 'multiple motor unit recruitment', and 'temporal summation' to 'wave summation'; revised Learning Objectives; relabeled 'PhILS' sequence for clarity
- 11 Exercise 12—Modified and added Review section figures for labeling and coloring-in of origins and insertions
- 12 Exercise 13—Modified Review section figures for labeling and coloring-in of origins and insertions
- 13 Exercise 15—Replaced figure 15.2 photo of Deep Muscles of the Back; added illustration for student labeling in the Review section

- **Exercise 16**—Minor revisions to text for clarity
- Exercise 17—Revisions to text for clarity; added 'septum pellucidum' to section on ventricles; clarified that motor nerves also have a sensory component to them; added another section of brain to the Review section for labeling
- Exercise 18—Changed terms 'anterior gray horn' to 'ventral horn' and 'posterior gray horn' to 'dorsal horn'; added 'subdural space' in meninges section; added upper limb figure in Review section for labeling
- 17 Exercise 19—Added 'extensor plantar response' for 'Babinski reflex'
- **Exercise 20**—Added general and specific senses to Introduction
- 19 Exercise 22—Rewrote Afterimages section for accuracy; added a labeling figure in Review section.
- Exercise 23—Added a figure for wavelength and amplitude to Introduction; revised the Learning Objectives section; added a section and figure on the cochlea and response to sound; updated the hearing test to incorporate smartphone metronomes in addition to ticking stopwatches; added a thought question to the Review section





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- **Exercise 24**—Added a section on negative feedback to the Introduction
- **Exercise 25**—Added a clinical question on lymphocyte counts to the Review section
- 23 Exercise 26—Deleted 'agglutinogens' and 'agglutinins' and added 'antisera' to blood typing section
- **Exercise 27**—Added questions to Review section on blood flow, as well as two new labeling illustrations
- 25 Exercise 28—Added new graphic to show relationship between electrical and mechanical events in the cardiac cycle; revised a question to have students trace and label an ECG
- **Exercise 30**—Replaced several cadaver photos with colorized photos to better show arteries
- 27 Exercise 31—Replaced a cadaver photo with colorized photo to better show arteries; revised two other figures
- 28 Exercise 32—Replaced several cadaver photos with colorized photos to make veins more visible

- Exercise 33—Minor revisions to Introduction and Objectives for clarity; deleted elephantiasis question and replaced it with labeling exercise in the Review section
- 30 Exercise 34—Added two new Review questions on experimental design and arteriosclerosis
- **Stercise 35**—Several figures modified for clarity; new clinical question added to Review section
- **Exercise 36**—Revised Learning Objectives section and Review questions to match the sequence within exercise
- **Exercise 38**—Added two review questions on fats and potential health effects
- **Exercise 40**—Reorganized exercise for better flow; reorganized Review section; added a question on mapping the filtrate as it moves through the kidney
- 35 Exercise 41—Added new questions in the Review section to reflect more clinical evaluation of data
- **Exercise 43**—Modified Learning Objectives to match the exercise organization