Anatomy & Physiology Release Notes 2017

Publish Date: March 15, 2017

Revision Number: AP-2013-003(03/17)-LC

Page Count Difference:

In the latest edition of *Anatomy & Physiology,* there are 1418 pages compared to the 1426 pages in the last edition. This page count variation is due to errata revisions and code releases to conserve space.

Errata:

Below is a table containing submitted errata, and the resolutions that OpenStax has provided for this latest text.

Issue	Resolution	Severity
Chapter 2.2: The Chemical Level of Organization, Section: Chemical Bonds, Subsection: Polar Covalent Bonds Chapter 2, covalent bonds: "As shown in Figure, regions of weak polarity are indicated with the Greek letter delta (?) and a plus (+) or minus (–) sign." I believe the symbol ? is a stylized letter "d" that denotes a partial deriviative: https://en.wikipedia.org/wiki/%E2%88%82. "The character ? (html element: ∂ or ∂, unicode: U+2202) or \partial is a stylized d mainly used as a mathematical symbol to denote a partial derivative . . " I believe the lower case Greek delta (?) is normally used to denote partial charge. The Greek symbol delta (?) is used in the associated figure.	In the third paragraph of subsection Polar Covalent Bonds, revise the symbol for delta.	Typo
Chapter 2.5 Organic Compounds Essential to Human Functioning 4.1 Types of Tissues 21.1 Anatomy of the Lymphatic and Immune Systems Introduction: The appendix and tonsils are part of the immune system. It is normally dehydration that kills at high terrestrial temperatures, not so much the heat. Fig. 2.27 is incorrect: it ignores the long-established fact of induced fit in enzymes. Fig. 3.17 is good: for a change someone remembers the peroxisomes--we would all be dead without them! Fig. 4.3 could be better drawn: show the bginning in the zygote. Fig. 4.13: more labels on the photomicrographs--the authors are missing several good	Revised text to include discussion of induced fit model of enzyme-substrate complex, and to correct an error in the description in the transportation of chyle.	Major

reinforcement ideas here! 5.3: Good. Section 18.6: Blood typing is an immune system function and belongs there. This has been known since the 1960's. Fig. 20.44: More detail on the foramen ovale please--the students can never "get" exactly how this works without a decent illustration. Fig. 21.2: No appendix! Groan... Fig. 21.3: The lower right portion of this is needlessly complicated. Fig. 21.5: It would be very beneficial to show some of the more prominent types of T-lymphocytes. AIDS is a mystery to all otherwise. The small attention to AIDS in chapter 21 is amazing--the coverage of SCID is, proportional to victims, high. Nobody in Anglophone Africa is going to like that! I now found the authors' attempt to explain the types of T-lymphocytes. May I say that it is quite confusing. I also went back and tried to find the lymph flow but must have missed it. Considering the postsurgical importance of lymphedema, this omission would be quite serious.		
Chapter 2.5: The Chemical Level of Organization, Section: Organic Compounds Essential to Human Functioning In Figure 2.28, Structure of ATP, carbon C5 (connecting ribose and phosphate group) has an extra L. Rather than "C", it's shown as "CL". L isn't an element of any sort and carbon can only form 4 bonds (which it has with 2 H, carbon C4 of ribose, and an O from the phosphate group).	In Figure 2.30 Structure of Adenosine Triphosphate (ATP), revise "CL" to "C" in the bond between the ribose and phosphate.	Unspecified
Chapter 4.2: The Tissue Level of Organization, Section: Epithelial Tissue, Subsection: Cell to Cell Junctions Tight junctions need a more specific function.	Add the following sentences after the definition of "tight junction" as shown: "At one end of the spectrum is the tight junction, which separates the cells into apical and basal compartments. When two adjacent epithelial cells form a tight junction, there is no extracellular space between them and the movement of substances through the extracellular space between the cells is blocked. This enables the epithelia to act as selective barriers."	Minor
Chapter 4.2: The Tissue Level of Organization, Section: Epithelial Tissue, Subsection: Glandular Epithelium Apocrine sweat glands don't secrete via apocrine secretion (at least not entirely)	Under Methods and Types of Secretion, revise the paragraph after Figure 4.10 Modes of Glandular Secretion as follows: "Apocrine secretion accumulates near the apical portion of the cell. That portion of the cell and its secretory contents pinch off from the cell and are released. Apocrine sweat glands in the axillary	Minor

	and genital areas release fatty secretions that local bacteria break down; this causes body odor."	
Chapter 4.3: The Tissue Level of Organization, Section: Connective Tissue Supports and Protects, Subsection: Cartilage It seems misleading to say the knee and jaw fount are fibrocartilage-- I think you mean the meniscus in these joints?	Revise the sentence after the definition of fibrocartilage as follows: "Fibrocartilage is tough because it has thick bundles of collagen fibers dispersed through its matrix. Menisci in the knee joint and the intervertebral discs are examples of fibrocartilage."	Typo
Chapter 4.6: The Tissue Level of Organization, Section: Tissue Injury and Aging, Homeostatic Imbalances: Tissues and Cancer In Fig 4.22 the description says to note the changes in cell size, nucleus size, and organization as the cancer develops, but no changes are shown in the picture.	Revise figure 4.22 Development of Cancer to show changes in cell size, nucleus size, and organization.	Minor
Chapter 7: Axial Skeleton Many of the interactive links just take you to a myPennMedicine site with no way to find the link related to the book topic. The skull bones interactive link on page 295 of the Anatomy and Physiology book is one example.	Updated Interactive Link URLs.	Major
Chapter 9.4 Synovial Joints 9.5 Types of Body Movements and 9.6 Anatomy of Selected Synovial Joints On pages 353, 362, 382, and 1357, zygapophyseal is misspelled as zygapohysial.	Revise spelling of "zygapohysial" to "zygapophyseal" throughout text.	Typo
Chapter 10.3: Muscle Tissue, Section: Muscle Fiber Contraction and Relaxation, Subsection: Sources of ATP When describing mechanism of ATP generation, it is misleading to separate glycolysis and fermentation--- the ATP produced during fermentation is FROM glycolysis. I suggest: creatine phosphate, fermentation, aerobic respiration. The last two processes both include the ATP from glycolysis.	Revise the last sentence of the first paragraph of subsection Sources of ATP as follows: "There are three mechanisms by which ATP can be regenerated: creatine phosphate metabolism, anaerobic glycolysis, and fermentation and aerobic respiration."	Minor
Chapter 10.3: Muscle Tissue, Section: Muscle Fiber Contraction and Relaxation, Subsection: The Sliding Filament Model of Contraction, Figure 10.10 In Fig 101.10 "at full contraction, thin and thick fibers overlap". This implies that they don't otherwise overlap-- without overlap, how would cross-bridges be possible?	Revise the last sentence in the caption of Figure 10.10 The Sliding Filament Model of Muscle Contraction as follows: "At full contraction, the thin and thick filaments overlap completely."	Minor
Chapter 10.4: Muscle Tissue, Section: Nervous System Control of Muscle Tension, Subsection: Muscle Tone Hypotonia is not synonymous with	In the third paragraph of subsection Muscle Tone, revise the sentence that defines hypotonia as follows: "The absence of the low-level contractions	Minor

atrophy	that lead to muscle tone is referred to as hypotonia, and can result from..."	
Chapter 10.8: Muscle Tissue, Section: Smooth Muscle Stretch causing contraction of smooth muscle should not be equated with the stretch-relaxation response.	After Figure 10.24 Muscle Contraction, in the paragraph starting "Smooth muscle is not under voluntary control", revise the last sentence as follows: "...(the stress-relaxation response)."	Minor
Chapter 11.3: The Muscular System, Section: Axial Muscles of the Head, Neck, and Back, Subsection: Muscles That Create Facial Expression The majority of the face is the buccinator muscle???????	Revise the first sentence of the paragraph that starts "The majority of the face is composed of..." as follows: "A large portion of the face is composed of the buccinator muscle, which compresses the cheek."	Minor
Chapter 14.1: The Somatic Nervous System, Section: Sensory Perception, Subsection: Sensory Modalities Figure 14.15 calls the fibers that attach the lens to the cilliary body the suspensory ligament. In the text, they are called zonule fibers.	Under heading Vision, revise the sentence that defines "zonule fibers" as follows: "...The choroid is posterior to the ciliary body, a muscular structure that is attached to the lens by suspensory ligaments, or zonule fibers."	Minor
Chapter 14.2: The Somatic Nervous System, Section: Central Processing, Figure 14.22 Right and left are reversed on figure 14.22	Add the following sentence to the end of the caption for Figure 14.22 Segregation of Visual Field Information at the Optic Chiasm: "(Note that this is an inferior view.)"	Typo
Chapter 14.3: The Somatic Nervous System, Section: Motor Responses, Subsection: Descending Pathways Corticobulbar tract mentioned but neither illustrated nor function explained	Revise the first paragraph of subsection Descending Pathways as follows: "The motor output from the cortex descends into the brain stem and to the spinal cord to control the musculature through motor neurons. Neurons located in the primary motor cortex, named Betz cells, are large cortical neurons that synapse with lower motor neurons in the brain stem or the spinal cord. The two descending pathways travelled by the axons of Betz cells are the corticobulbar tract and the corticospinal tract. Both tracts are named for their origin in the cortex and their targets—either the brain stem (the term “bulbar” refers to the brain stem as the bulb, or enlargement, at the top of the spinal cord) or the spinal cord."	Minor
Chapter 15.4: The Autonomic Nervous System, Section: Drugs that Affect the Autonomic System, Subsection: Sympatholytic Drugs Section 15.4 Under subheading "sympatholytic drugs" Text says "A couple of common versions of ?-blockers are metoprolol, which specifically blocks the ?2-receptor" CORRECTION: "A couple of common versions of ?-blockers are metoprolol, which specifically blocks the ?1-receptor"	In subsection Sympatholytic Drugs, revise the second to last sentence in the second paragraph as follows: "A couple of common versions of beta-blockers are metoprolol, which specifically blocks the beta1-receptor..."	Major

Metopralol is a selective ?1 blocker, not a selective ?2 blocker.		
Chapter 18.3: The Cardiovascular System: Blood, Section: Erythrocytes, Figure 18.8 "The cell components (organelles, membrane structures) are recycled." What does it mean to recycle an organelle? And what organelles does an erythrocyte still have?	Delete the second sentence from step 4 in Figure 18.8 Erythrocyte Lifecycle.	Minor
Chapter 18.5 The Cardiovascular System: Blood, Section: Hemostasis, Subsection: Coagulation On page 767 the text incorrectly identifies fibrinogen as insoluble and fibrin as soluble. The sentence should read: Then, thrombin converts factor I, the soluble fibrinogen into the insoluble fibrin protein strands.	In the Common Pathway paragraph under subsection Coagulation, revise the second to last sentence as follows: "Then, thrombin converts factor I, the soluble fibrinogen, into the insoluble fibrin protein strands."	Critical
Chapter 19.2: The Cardiovascular System: The Heart, Section: Cardiac Muscle and Electrical Activity, Subsection: Membrane Potentials and Ion Movement in Cardiac Contractile Cells Seems misleading to say that contractile cardiac muscle cells have a stable resting membrane potential but also to say they are capable of generating their own AP. Also, "Despite their initial difference, the other components of their action potentials are virtually identical" could be construed as suggesting conducting and contractile cell APs are similar (it is meant to say APs in atrial and ventricular contractile muscle is similar).	Revise the last sentence of the first paragraph as follows: "These cardiac myocytes normally do not initiate their own electrical potential, but rather wait for an impulse to reach them."	Minor
Chapter 19.4: The Cardiovascular System: The Heart, Section: Cardiac Physiology, Figure 19.32 Shouldn't sympathetic stimulation of the heart be coming from the thoracic spinal cord rather than directly from the brain stem?	Revise Figure 19.32 Autonomic Innervation of the Heart to show the sympathetic cardiac nerves traveling to the spinal cord before the heart.	Minor
Chapter 19.4: The Cardiovascular System: The Heart, Section: Cardiac Physiology, Subsection: Factors Decreasing Heart Rate The role of hypoxia in modulating heart rate and stroke volume is muddled in this section-- hypoxia is listed as both increasing and decreasing heart rate (without explanation).Chapter 19: The Cardiovascular System: The Heart, Section: Cardiac Physiology, Subsection: Factors Decreasing Heart Rate	Delete the second paragraph.	Minor
Chapter 19.4: The Cardiovascular System: The Heart, Section: Cardiac Physiology, Tables 19.1 and 19.2 This	Revise Table 19.1 to list factors that increase heart rate and contraction force. Revise Table 19.2 to list factors	Minor

table is muddled-- the column labeled "effect" is sometimes really "stimulus detected" and sometimes mechanism of action. Also, some change heart rate and others change HR and strength, but those aren't differentiated. Would also be good to get the whole of table 19.1 on one page.	that decrease heart rate and contraction force.	
Chapter 20.2: The Cardiovascular System: Blood Vessels and Circulation, Section: Blood Flow, Blood Pressure, and Resistance, Subsection: Blood Viscosity Wouldn't a reduction in liver function cause reduced plasma proteins, decreasing viscosity? The text suggests viscosity would increase.	Revise the second paragraph as follows: Normally the viscosity of blood does not change over short periods of time...Since most plasma proteins are produced by the liver, any condition affecting liver function can also change the viscosity slightly and therefore increase blood flow. Liver abnormalities such as hepatitis, cirrhosis, alcohol damage, and drug toxicities result in decreased levels of plasma proteins, which decrease blood viscosity.	Minor
Chapter 21.1: The Lymphatic and Immune System, Section: Anatomy of the Lymphatic and Immune Systems, Subsection: Secondary Lymphoid Organs and their Roles in Active Immune Responses "Germinal centers, which are sites of rapidly dividing B lymphocytes and plasma cells, with the exception of the spleen" .... this makes it sound like the spleen lacks germinal centers, but they are shown in Figure 21.9 and discussed in the spleen section.	Revise the definition of germinal centers as follows: • Germinal centers, which are the sites of rapidly dividing and differentiating B lymphocytes	Minor
Chapter 21.6: The Lymphatic and Immune System, Section: Diseases Associated with Depressed or Overactive Immune Responses, Subsection: Human Immunodeficiency Virus/AIDS There should be added something to this section: "CD4 is the receptor that HIV uses to get inside T cells and reproduce. Given that CD4+ helper T cells play an important role in other in T cell immune responses and antibody responses, it should be no surprise that both types of immune responses are eventually seriously compromised." Here is my suggestion: HIV does use the CD4 receptor, but it needs a specific co-receptor as well to enter. People without the co-receptor are "immune". The co-receptor I am familiar with is the CCR5 co-receptor and the CXCR4 co-receptor. Without these (not necessarily and exhaustive list, just the ones I'm familiar with), HIV cannot infect the CD4+ helper T cell. It's also worth	Revise the second paragraph as follows: After seroconversion, the amount of virus circulating in the blood drops and stays at a low level for several years. During this time, the levels of CD4+ cells, especially helper T cells, decline steadily, until at some point, the immune response is so weak that opportunistic disease and eventually death result. HIV uses CD4 as the receptor to get inside T cells, but it also needs a co-receptor, such as CCR5 or CXCR4. These co-receptors, which usually bind to chemokines, present another target for anti-HIV drug development. Although other antigen-presenting cells are infected with HIV, given that CD4+ helper T cells play an important role in T cell immune responses and antibody responses, it should be no surprise that both types of immune responses are eventually seriously compromised.	Minor

noting that HIV infects other immune cells as well, including dendrittic cells and macrophages. These are APCs, which obviously also harms the immune responses, both innate and acquired.		
Chapter 21.7: The Lymphatic and Immune System, Section: Transplantation and Cancer Immunology, Subsection: The Rh Factor The antibodies specific to the Rh factor are given to the mother during the FIRST (and subsequent) births, not just the later births. This is necessary to prevent her exposure to the Rh factor and production of antibodies.	Revise the last sentence of the second paragraph as follows: "These are given to the mother during the first and subsequent births, destroying any fetal blood that might enter her system and preventing the immune response."	Minor
Chapter 22.3: The Respiratory System, Section: The Process of Breathing Need to standardize the names of pressures associated with the lung-- the terms intra-alveolar and interpulmonary are used interchangeably without clarification. The pressure between the pleura is various called intrapleural and interpleural.	Revise "alveolar pressure" to "intra-alveolar pressure" throughout. Revise "interpulmonary" to "intrapulmonary" throughout. Revise "interplueral" to "intrapleural" throughout.	Minor
Chapter 22.3: The Respiratory System, Section: The Process of Breathing, Figure 22.19 Need a better FEV definition that catches the idea that this is during a fixed interval of the vital capacity test. Current definition could just as easily be tidal volume.	In Figure 22.19 Pulmonary Function Testing, revise function of FEV to "Volume of air exhaled during one forced breath".	Minor
Chapter 22.3: The Respiratory System, Section: The Process of Breathing, Subsection: Factors That Affect the Rate and Depth of Respiration It seems misleading to suggest respiratory rate is a positive feedback loop. Since respiratory rate is determined by blood gas concentrations, and the change in respiratory rate corrects the gas levels, this seems much more like a negative loop.	Revise "positive feedback" to "negative feedback" in the second sentence of the first paragraph.	Minor
Chapter 22.4: The Respiratory System, Section: Gas Exchange, Subsection: Ventilation and Perfusion Why is the alveolar air listed as 104mmHg but the pulmonary venule at 100? This would imply the blood is not coming to equilibrium with the air. I think the error is that the pulmonary VEINS should have a slightly lower pO2 than the alveoli, since some of the blood didn't get to areas with good air flow, but each venule should be at equilibrium with the alveoli in which it is associated.	Revise the first sentence of the second paragraph as follows: "The partial pressure of oxygen in alveolar air is about 104 mm Hg, whereas the partial pressure of oxygenated blood in pulmonary veins is about 100 mm Hg."	Minor

Chapter 22.4: The Respiratory System, Section: Gas Exchange, Table 22.2 Other gasses are listed as a percent of total composition of .0006 but a partial pressure of .5mmHg. This should be .005 (right now it is not being converted to a decimal before being multiplied).	In Table 22.2 Partial Pressures of Atmospheric Gases, revise the middle column values for water, carbon dioxide, and others as follows: Gas - Percent of total composition Water (H_2O) - 0.4 Carbon dioxide (CO_2) - 0.04 Others - 0.06	Minor
Chapter 23.3: The Mouth Pharynx, and Esophogus - In the section about saliva, there's an occurrence of "salvia" instead		Typo
Chapter 23.5: The Digestive System, Section: The Small and Large Intestines, Subsection: Anatomy Singular of haustra is haustrum, not hostrum	Revise "hostrum" to "haustrum".	Typo
Chapter 23.7: The Digestive System, Section: Chemical Digestion and Absorption: A Closer Look, Figure 23.29 The figure implies glycogen and starch are hydrolyzed to lactose and sucrose--table needs redesigning.	Revise Figure 23.29 Carbohydrate Digestion Flow Chart to include polysaccrides.	Minor
Chapter 23.7: The Digestive System, Section: Chemical Digestion and Absorption: A Closer Look, Figure 23.30 Why is pepsin the only enzyme shown in protein digestion in Figure 23.31	In Figure 23.30 Digestion of Protein, add the label "Protein-digesting enzymes are also secreted from the brush border".	Minor
Chapter 23.7: The Digestive System, Section: Chemical Digestion and Absorption: A Closer Look, Subsection: Lipid Absorption "Despite being hydrophobic, the small size of short fatty acids enables them to be absorbed by simple diffusion". Surely it is BECAUSE they are hydrophobic (lipophilic) that they can slide between the phospholipids?	Revise the last sentence of the first paragraph as follows: "The small size of short-chain fatty acids enables them to be absorbed by enterocytes via simple diffusion, and then take the same path as monosaccharides and amino acids into the blood capillary of a villus."	Minor
Chapter 23.7: The Digestive System, Section: Chemical Digestion and Absorption: A Closer Look, Table 23.10 Table 23.10-- Nucleic acid digestion products are listed as breakdown products of lipids??????	In the last line of Table 23.10 Absorption in the Alimentary Canal, revise "Lipids" to "Nucleic Acids".	Typo
Chapter 24.4: Metabolism and Nutrition, Section: Protein Metabolism, Figure 24.20 Ketone oxidation and ketogenesis should be coming off/going into acetyl coA, not pyruvate.	In Figure 24.20 Catabolic and Anabolic Pathways, move Ketone oxidation and ketogenesis down to come off/go into acetyl CoA.	Major
Chapter 25.2: The Urinary System, Section: Gross Anatomy of the Kidney, Figure 25.9 Text causes the arteries cortical radiate arteries, Figure 25.9 shows them as interlobular--- make these consistent.	in Figure 25.9 Blood Flow in the Kidney, revise "interlobular" to "cortical radiate".	Minor
Chapter 25.2: The Urinary System, Section: Gross Anatomy of Urine Transport, Subsection: Ureters The renal	Revise the third sentence in the first paragraph as follows: "The renal pelvis narrows to become the ureter of each	Minor

pelvis narrows to become the ureter, not the hilum narrows...	kidney."	
Chapter 25.6: The Urinary System, Section: Tubular Reabsorption, Subsection: Mechanisms of Recovery The movement of glucose and Na+ is described as facilitated diffusion, but this is misleading-- into the PCT, shouldn't glucose transport be secondary AT? Especially since usually essentially all the glucose is removed from the filtrate?	In the fourth paragraph, revise "facilitated diffusion" to "mediated transport". Revise the fifth paragraph as follows: "Symport mechanisms move two or more substances in the same direction at the same time, whereas antiport mechanisms move two or more substances in opposite directions across the cell membrane. Both mechanisms may utilize concentration gradients maintained by ATP pumps. As described previously, when active transport powers the transport of another substance in this way, it is called “secondary active transport.” Glucose reabsorption in the kidneys is by secondary active transport. Na+/K+ ATPases on the basal membrane of a tubular cell constantly pump Na+ out of the cell, maintaining a strong electrochemical gradient for Na+ to move into the cell from the tubular lumen. On the luminal (apical) surface, a Na+/glucose symport protein assists both Na+ and glucose movement into the cell. The cotransporter moves glucose into the cell against its concentration gradient as Na+ moves down the electrochemical gradient created by the basal membranes Na+/K+ ATPases. The glucose molecule then diffuses across the basal membrane by facilitated diffusion into the interstitial space and from there into peritubular capillaries.	Minor
Chapter 25.6: The Urinary System, Section: Tubular Reabsorption, Subsection: Reabsorption and Secretion in the Loop of Henle The description of role of ascending limb of the loop of Henle, and of aldosterone, has a lot of repetition and could use editing/tightening.	In the section Ascending Loop, revise the first paragraph as follows: The ascending loop is made of very short thin and longer thick portions. Once again, to simplify the function, this section only considers the thick portion. The thick portion is lined with simple cuboidal epithelium without a brush border. It is completely impermeable to water due to the absence of aquaporin proteins, but ions, mainly Na+ and CL–, are actively reabsorbed by a cotransport system. This has two significant effects: Removal of NaCl while retaining water leads to a hypoosomotic filtrate by the time it reaches the DCT; pumping NaCl into the interstitial space contributes to the hyperosmotic environment in the	Minor

	kidney medulla.	
Chapter 25.6: The Urinary System, Section: Tubular Reabsorption, Table 25.7 Movement of all substances in exchange for H+ is not a standard depiction and is not described in the text.	Delete Table 25.7.	Minor
Chapter 26.3: Fluid, Electrolyte, and Acid-Base Balance, Section: Electrolyte Balance, Section Summary Section 26.3 Chapter Review typo Last line reads "Calcium and phosphate are regulated by PTH, calcitrol, and calcitonin." It should read "calcitriol" instead of calcitrol.	Correct the misspelling of "calcitriol".	Typo
Chapter 26.3: Fluid, Electrolyte, and Acid-Base Balance, Section: Electrolyte Balance, Subsection: Bicarbonate Equation in section 26.3 Electrolyte Balance is incorrect. Using the online version. It currently reads: CO2 + H2O?H2CO3?H2CO3- + H+ It should read: CO2 + H2O ?H2CO3?HCO3- + H+	In subsection Bicarbonate, revise the reaction given for bicarbonate ions as follows: CO2 + H2O <--> H2CO3 <--> HCO3- + H+	Major
Chapter 27.1: The Reproductive System, Section: Anatomy and Physiology of the Male Reproductive System, Subsection: Sertoli Cells Section 27.1 under sertoli cells, typo "Sertoli Cells Surrounding all stages of the developing sperm cells are elongate, branching Sertoli cells. Sertoli cells are a type of supporting cell called a sustentacular cell, or sustenocyte" should read "sustentocyte"	Correct the misspelling of "sustentocyte".	Typo
Chapter 27.1: The Reproductive System, Section: Anatomy and Physiology of the Male Reproductive System, Subsection: Spermatogenesis Hello, I would like to bring attention to a specific book of yours that may have an error in it. Anatomy & Physiology ISBN-10 1938168135 ISBN-13 978-1-938168-13-0 Revision AP-1-001-DW Page 1208 (hard copy) paragraph after photo "Two identical diploid cells result from spermatogonia mitosis. One of these cells remains a spermatogonium, and the other becomes a primary spermatocyte, the next stage in the process of spermatogenesis. As in mitosis, DNA is replicated in a primary spermatocyte, and the cell undergoes cell division to produce two cells with identical chromosomes. Each of these is a secondary spermatocyte. Now a second round of cell division occurs in both of the secondary spermatocytes, separating the chromosome pairs. This	Revise the paragraph after Figure 27.5 Spermatogenesis as follows: "Two identical diploid cells result from spermatogonia mitosis... As in mitosis, DNA is replicated in a primary spermatocytebefore it undergoes a cell division called meiosis I. During meiosis I each of the 23 pairs of chromosomes separates. This results in two cells, called secondary spermatocytes, each with only half the number of chromosomes. Now a second round of cell division occurs in both of the secondary spermatocytes. During meiosis II each of the 23 replicated chromosomes divides, similar to what happens during mitosis. Thus, meiosis results in a total of four cells with only half of the number of chromosomes."	Major

second meiotic division results" The diagram shows that from primary to secondary is meiosis I and should result in 23 chromosome. yet the text makes it sounds as though just a normal round of mitosis occurs instead of Meiosis and that both of the spermatocytes have 46 chromosomes as well. it is as if either there was a clipping/editing error and a sentence or 2 went missing. please correct this issue to help others in the future better understand. thank you.		
Chapter 27.1: The Reproductive System, Section: Anatomy and Physiology of the Male Reproductive System, Subsection: Structure of Formed Sperm There is a typo in the first paragraph-- the second sentence is run-on.	Revise the first three sentences of the first paragraph as follows: Sperm are smaller than most cells in the body; in fact, the volume of a sperm cell is 5,000 times less than that of the female gamete. Approximately 100 to 300 million sperm are produced each day, whereas women typically ovulate only one oocyte per month. As is true for most cells in the body, the structure of sperm cells speaks to their function.	Typo
Global Chapter 9 (iBook) Q9, Q11, Q13, Q15, Q18 - Linked pages no longer working. Chapter 10 Section 8 (CNX Online) “Critical Thinking Questions” subheading is titled “Free Response” at the bottom of the page. Chapter 12 (iBook) Q4 - Links not formatted like the other questions. Chapter 13 (iBook) Q7 - Linked page no longer working. Chapter 17 (PDF) Q1-Q5 - No solutions for all "Interactive Link Questions" in the PDF. Chapter 21(iBook) Q1 - Linked page no longer working. Chapter 27(iBook) Q4 - Linked page no longer working. Chapter 28(iBook) Q3 - Linked page no longer working.	Updated URLs for Interactive Links throughout the book.	Major