

Pedagogical Tools to Address Clinical Anatomy and Athletic Training Student Learning Styles

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Context: A thorough knowledge of anatomy is needed in four of the six domains of athletic training: prevention, injury/condition recognition, immediate care, and treatment/rehabilitation. Students with a solid foundation can achieve competency in these specific domains.

Objective: To provide educators with pedagogical tools to promote a deeper understanding of the human body and its relationship with athletic injuries

Background: Research demonstrates that there is no one dominant learning style among athletic training students, and therefore, educators are encouraged to utilize and expose students to a variety of teaching strategies. Throughout the athletic training literature, there are a host of pedagogic tools that can help encourage independent thinking, cognitive knowledge, and skill application. The same techniques can be tailored to increase human anatomy knowledge and application. Additionally, most curriculums do not have the ability to create a class solely dedicated to human anatomy. Therefore, it is important to incorporate as many learning opportunities within existing curriculums to help student learning.

Description: Discourse, puzzles, open discussion, and simulations are teaching methods that can be utilized in existing curriculums to further facilitate anatomical knowledge.

Clinical Advantages: Students who have a solid background in human anatomy will demonstrate a stronger understanding and apply their knowledge within four of the six domains of athletic training.

Conclusions: Educators can use a variety of teaching techniques in order to develop a student's acquisition and retention of anatomical knowledge. The use of multiple educational techniques can not only address a student's strengths as a learner but also challenge them by impelling them to address their weaknesses as a learner. It will also encourage practical application of anatomy when evaluating and treating athletic injuries.

Key Words: pedagogy, athletic training students, clinical competence, proficiency

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Athletic training programs are designed to prepare athletic training students with the knowledge and skills in six domains as defined by the Board of Certification (BOC).¹ A common thread within four of these domains is a sound understanding of the human body including anatomy, physiology, and kinesiology (see Table 1). Therefore, it is essential for athletic training programs to integrate opportunities for students to gain the specific knowledge related to the human body and make the connection to the specific domains of athletic training. Frequently, to address the educational competencies² directly associated with clinical anatomy, many programs require a general anatomy and physiology course or an applied/clinical kinesiology course. The aforementioned courses are most often not taught by an athletic trainer, and the connection between the human body and athletic injuries may be underemphasized. From our experiences, a student with a strong background for anatomy, particularly with an anatomical structure's attachments and functions, will be able to make appropriate clinical diagnoses, create comprehensive treatment programs, and develop preventive strategies for their patients. An additional benefit of increased human anatomy knowledge is improved communication with other allied health and medical professionals.

Although we recognize it is not always plausible to add a course that is dedicated solely to the anatomy needs of the student, we do acknowledge the need for athletic training education programs (ATEP) to infuse references to anatomy throughout their curriculums as this can only enhance content retention and learning over time. Thus, the purpose of this manuscript is three-fold. First, we include a brief discussion of the common learning styles associated with athletic training students. Second, we illustrate a variety of educational techniques designed to meet the different learning style needs of the students while integrating clinical anatomy into the ATEP. Finally, we discuss ways athletic training (AT) educators can incorporate anatomy into the curriculum in order to advance their students' knowledge and understanding of the human body, which has the potential to enhance their clinical skills, confidence, and overall competence as a clinician.

LEARNING STYLES

Undergraduate students utilize different approaches to gather and apply new information and knowledge, which is often referred to as one's personal learning style.³ The literature reveals a multitude of learning styles, but within athletic training and other medical professions steeped in anatomical foundations, four learning styles have been predominately studied:³⁻⁶ accommodators (concrete, active), divergers (concrete, reflective), convergers (abstract, active), and assimilators (abstract, reflective).⁷ The aforementioned learning styles are a part of the Kolb Learning Style Inventory (KLSI),⁷⁻⁸ which is rooted in experiential learning theory. Accommodators prefer to be actively engaged in their

learning processes, are risk takers, and to learn through trial and error and solve problems intuitively.⁷ Divergers excel with idea development and brainstorming because they enjoy the creativity it provides, appreciate various perspectives and input, and typically have culturally diverse backgrounds.⁷ Convergers are deductive reasoners who value the importance of practical application to real-life situations and prefer to work with things rather than people.⁷ Finally, assimilators use reflective reasoning and observation for cognitive retention and employ inductive reasoning to solve problems.^{3-4,7-8}

More recently, researchers have investigated the Gregorc Mind Styles model within the athletic training profession.⁹ The foundation of this model is in an individual's perception and experiences, which influence one's preference for a particular learning method. Using this model, it appears students learn best when the learning environment is busy, social, and unstructured, but they also thrive with hands-on experiences and structured activities such as worksheets.⁹ Students enrolled in nursing, physician assistant, and medical programs—curriculums similar to AT—demonstrate learning styles consistent with assimilators and accommodators, who are learners who thrive on hands-on experiences and practical application of ideas and knowledge.¹⁰⁻¹¹

Based on the results of the studies using the KLSI and Mind Styles, athletic training students appear to be diverse learners with no apparent dominant style^{3-6,9} and may even select their preferred instructional method based on the materials presented or learned.³⁻⁷ This theory parallels a recent literature review of learning styles by Pashler et al,¹² which suggests it is unnecessary to assess a student's learning style as the evidence fails to fully validate its success. The authors of this review, however, are quick to point out that the "optimal instructional method is likely to vary across disciplines"^{12(p116)} and that some students may benefit at times from one learning style over another.

Keeping this research study¹² and the previous literature within athletic training in mind,^{3-6,9} we advocate the use of a variety of instructional methods (eg, case studies, discourse, lecture) to provide an environment that promotes and fosters student learning.^{3-6,7,9} Additionally, exposure to a variety of teaching methods can promote critical thinking, which is a major challenge and goal for AT educators.¹³ Through our experiences as educators, as well as a search of the existing literature, we have discovered several pedagogic strategies to help promote anatomical knowledge by specifically addressing the learning styles mentioned previously. Table 2 provides examples of specific techniques and activities that can be incorporated into a variety of AT courses to stimulate anatomical discussions and anatomical knowledge.

Table 1. Examples of specific anatomical knowledge and the relationship to athletic training domains

Domains			
Anatomical Concept	Prevention	Evaluation	Immediate Care
Sartorius origin	Used during core stabilization programs with the lumbopelvic complex	Cause of an ASIS avulsion fracture	Awareness of its role in a hip pointer treatment and rehabilitation
Hamstring origin and psoas major origin	Stretching and strengthening across all joints that are crossed by the muscles	Contributing factor to lumbar regional pain	Massage covers the entire muscle, not stopping at the gluteal or inguinal fold.
Biceps brachii origin	Involvement during shoulder stability programs	Cause of a SLAP lesion	Immobilization during a tendon rupture
Number of tendons emanating from the flexor digitorum superficialis and profundus	Analysis of wrist and finger positioning during sport and occupational activities to avoid inflammation of tendons	Contributing factor to carpal tunnel syndrome	Swelling control over the entire wrist flexor complex while being cautious of nerve pathways
The number of muscles found in the anterior compartment of the lower leg, their individual actions, and their shared innervations	Utilization of appropriate equipment to protect the entire compartment	A multi-symptomatic recognition of anterior compartment syndrome	Swelling control of the compartment and understanding its possible affects on other compartments
The number of muscles that attach to the occipital bone; the C2 nerve pathway.	Utilization of appropriate equipment to restrict triggering motions	A contributing factor to headaches, whiplash, and brachial plexus injuries	Allow immobilization for healing and scarring
The relationship between the pectoralis major and rhomboideus muscles	Tightness of one structure can cause weakness of the other	Functional postural abnormalities	Strengthening that is weak and lengthening that is tight through attachment knowledge
			Focus upon how anterior muscles affect posterior structures

Table 2. Methods to Incorporate Anatomy into the Classroom

AT Course	Objective/Competency	Teaching Method	Activity
Prevention and Care of Musculoskeletal Injuries	Recognition of anatomical structures injured in a lateral ankle sprain.	Univocal Discourse ¹⁴	Pose the question, “What soft tissue structures are injured with a lateral ankle sprain?”
Introduction to Athletic Training			
Therapeutic Rehabilitation	Identify and discuss exercises to improve muscular strength and endurance when treating multidirectional instability of the glenohumeral joint.	Dialogic Discourse ¹⁴	Pose the question, “When developing a treatment program for a volleyball player suffering from multidirectional instability what muscle groups must be addressed and what exercises would address those involved?”
Assessment or Clinical Evaluation and Diagnosis	Identify and palpate the bony and soft tissues structures that can become injured with medial epicondylitis.	Formal/Informal Group Sessions ^{15-17,24}	With a partner have students develop a list of structures that must be evaluated/palpated with medial epicondylitis and then have them palpate those structures.
Strength and Conditioning, Biomechanics, or Foundations of Conditioning	Develop a fitness program appropriate to the patient’s needs and select activities that meet the requirements established by the appropriate governing agency and/or physician for enhancing speed, strength, flexibility, and power.	Case Study or Presentation of the Problem ^{13,20-21}	In small groups present students with the following problem/case: a wrestler with lordosis. Develop a plan to address this athlete’s needs. Be prepared to support the plan.
Assessment or Clinical Evaluation and Diagnosis	Explain the roles of special tests in injury assessment.	Open Discussion Quiz ²⁴	In small groups have students answer the question, “Why do athletes suffering from a SLAP lesion suffer from weak shoulder flexion and pain during the deceleration phase of throwing?”
Prevention and Care of Musculoskeletal Injuries	Describe strength assessment using resistive range of motion, break tests, and manual muscle testing.		
Prevention and Care of Musculoskeletal Injuries	Describe the principles and concepts of body movement including joint movements and joint action terminology.	Crossword Puzzles ²²	Develop a crossword puzzle that challenges the AT student to connect an injury with an anatomical structure or muscle action with a muscle.
Therapeutic Rehabilitation			

Table 2. Methods to Incorporate Anatomy into the Classroom (Continued)

AT Course	Objective/Competency	Teaching Method	Activity
Emergency Procedures or Evaluation of the Head, Neck, Spine	Recognition of structures involved with an injury to C7.	Simulations ²¹	Scenario: An athlete with a possible brachial plexus injury reports numbness and weaknesses along C7; evaluate C7
Capstone Course or Senior Seminar Course	Ability to demonstrate musculoskeletal assessment of the knee to accurately identify the athletic injury.	Problem-Based Learning ¹⁸⁻¹⁹	Have students develop a concept map outlining the anatomical structures involved in the evaluation of the knee for a possible patella dislocation.
Clinical or Anatomical Kinesiology	Describe the principles and concepts of body movement including joint movements.	Jeopardy ²⁵	Sample questions include, "This muscle when in a closed kinetic position helps unlock the knee by laterally rotating" or "This special test places the arms in a position of scaption (approximately 30 degrees of horizontal adduction with the shoulders abducted to 90 degrees)"
Assessment or Clinical Evaluation and Diagnosis	Explain the roles of special tests in injury assessment.		
Clinical or Anatomical Kinesiology	Apply the use of anatomically correct terminology of motions and joints	"Picture Perfect" ²⁵	Place students in groups of 2-3. Place a picture on the screen of someone frozen in action. One student faces away from the picture while the group members must place their classmate in the same position as the picture through verbal directions. Only the use of correct anatomical motions and the anatomical names of joints can be used to describe the position.
Prevention and Care of Musculoskeletal Injuries	Understand common mechanisms of injury and recognize what anatomical motions are occurring and what joints		
General Medicine Course	Recognition of anatomical structures involved with general medicine conditions and an understanding of how disease can spread	Ordering Games ²⁵	Place each anatomical structure on a separate note card and mix-up. Place students in groups. Students must place the anatomical structures in order correctly and faster than the other groups. A variation on the game includes adding a list of general medicine conditions also on note cards and have them placed next to the correct anatomical structure that it affects.

EDUCATIONAL TECHNIQUE

Drawing from the activities presented in Table 2 and addressing those students who demonstrate an accommodating learning style, educators should incorporate learning activities such as problem-based learning, open discussion quizzes, jeopardy, and dialogic discourse.^{7,9} The previously mentioned activities allow the accommodator to assume a leadership role particularly with the open discussion quizzes, presentation of the problem activity, and problem-based learning activities. Furthermore, the accommodator, through these types of classroom activities, can be actively engaged in the process and take advantage of their intuitive problem-solving abilities.

Problem-based learning activities, concept mapping, picture perfect, group assignments/quizzes, and simulations are effective teaching tools to address the learning needs of the diverger.^{7,9} The aforementioned classroom activities take advantage of the diverger's reflective ability by encouraging the generation of ideas and solutions to problems primarily through brainstorming within a small group of peers/classmates who may have differing opinions.

The converger would benefit from activities such as crossword puzzles, Jeopardy, univocal/dialogic discourse, case studies, ordering games, and simulations as this learner is more individually driven rather than group orientated.^{7,9} The previously mentioned techniques rely heavily on right and wrong answers, independent learning, and practical application of knowledge, which are all strengths of a converger.⁷ Discourse, problem-based learning, simulations, and case study presentations are effective methods to use in the classroom when attempting to meet the needs of the assimilator.^{7,9} This learner relies greatly on structured activities with detailed instructions, which allow for the logical development of an answer or solution to a given problem or situation. The assimilator also appreciates abstract concepts and alternative solutions to problems, as long as they appear to be logical and sound.^{7,9}

To be effective educators, we must appreciate each student's strengths and weaknesses as learners; therefore, we must facilitate learning by introducing students to a variety of instructional methods. The previously mentioned learning styles have been studied extensively in the athletic training literature,^{3-6,9} and the suggested activities are meant to help AT educators correspond to the student's learning style for a better learning environment. Furthermore, implementing multiple pedagogical tools in the course can meet the student's learning needs and preferences while simultaneously challenging them to step out of their learning comfort zone.^{7,9,13}

ACTIVITY DESCRIPTIONS

Discourse is the process of communication and is either written or oral/verbal. In the educational forum, discourse is often referred to as a discussion-based classroom activity where there is a verbal exchange between the student(s) and the teacher.¹⁴ Two major types of discourse can be implemented in

the classroom: univocal and dialogic. Educators rely heavily on univocal discourse to communicate basic cognitive knowledge, such as facts and lower-level concepts (eg, anterior talofibular ligament prevents excessive inversion and is therefore involved with grade I inversion ankle sprains). This type of classroom tool is very effective in introductory courses when a student needs to gain the basic or underlying concepts prior to application or higher-level thinking.¹⁴ Conversely, when using dialogic discourse, the educator encourages higher level critical thinking by incorporating the thoughts and experience of both the student and the instructor. This pedagogical tool is heavily rooted in providing meaning to student learning, allowing them to take ownership over the learning process, and encouraging multiple solutions to a problem by gathering multiple perspectives (ie, the ATF ligament attaches to the talus and fibula, therefore gliding the talus anteriorly during joint play will stress this ligament).¹⁴ Table 2 provides an additional example for implementation.

Group lab sessions are an effective way to actively involve students in the learning process while taking ownership of their learning responsibilities. The lab sessions serve multiple purposes including a means to foster teamwork, developing leadership skills, and promoting healthy competition between groups. This type of pedagogical tool has proven effective in promoting student learning and retention of course materials.¹⁵ Prior to implementation, educators must consider the main purpose of the group work, provide instructions and objectives for the task or work assigned, use appropriate group size, encourage a fair division of labor, and evaluate the work assigned.¹⁶⁻¹⁷ Group sessions can be either formal or informal. A formal group session could be a specific assignment and or task that must be accomplished over a period of time (one class session versus semester project), such as using clay to re-create the arm muscles that control the elbow. An example of an informal group session could be an impromptu assignment or class discussion (usually ends in one class period),¹⁷ such as having the students develop an acronym to remember the order of the carpal bones.

Problem-based learning (PBL) is a instructional method grounded in teaching students to think critically and solve problems.¹⁸ Problem-based learning, which has gained popularity in athletic training education curriculums, is a group-based activity that consists of a small group of individuals with the same goal in mind.¹⁸ This type of formal group work is designed to engage the learner in real life situations by taking into consideration all of the elements that can influence learning and decision making in a real-world setting.¹⁸ Simply having the students find the anatomical cause of an injury is a way to utilize PBL in the classroom. The use of concept mapping is also a popular approach embedded within problem-based learning. Concept mapping allows students to make connections between major concepts in a hierarchal fashion and is an effective means to evaluate a student's understanding and retention of knowledge.¹⁹ Table 2 provides an example of using concept mapping¹⁹ as it relates to clinical anatomy and an injury evaluation. Although problem-based learning is more of a global curricular approach to student learning, the concept of student-based learning and working together to solve problems can be effective in singular classroom sessions such as case studies and reviewing clinical anatomy.

Case studies/presentation of the problem fosters critical thinking in the classroom.¹³ Case studies, which are either contrived or real, allow for students to become engaged in the learning process, connect theory to practice, and gain multiple perspectives to application.²⁰ Case study presentations can be done collaboratively in small groups or individually, but prior to implementation, educators should consider the overall goal of the activity and the desired outcome. Open-ended questions should be prepared for discussion. Also, when presenting the case, it is important that the students are prepared for the material covered within the case. For example, present to a group of students in an assessment course a case involving a baseball player with internal impingement. Direct the students to focus on the anatomical structures involved while presenting the special tests involved with the evaluation process of the injury. Table 2 provides another anatomy-specific example.

Simulations, similar to case study presentations, are a great tool to help promote critical thinking and allow students to apply theory to a “real-life” situations.²¹ Unlike case study presentations, simulations are designed to allow students to implement or practice skill-based knowledge particularly when those skills are not always called upon (eg, CPR, first aid, or ACL evaluation).²¹ Traditionally, simulations are used for objective and subjective evaluation of a student’s performance on a particular skill (eg, injury evaluation) but can be easily adapted to address clinical anatomy. Focusing on the injury evaluation process and incorporating differential diagnoses, have students identify the structures involved in both an osteochondral lesion of the knee and a meniscal injury. Once this is completed, have them perform the assessment to differentiate the two conditions; however, be sure to discuss the relationship between the clinical outcomes and the anatomical structures involved. Table 2 provides another example for implementation. Educators, when developing simulations, need to consider several components including selecting the topic, understanding the level of the student, identifying the critical elements to be covered and evaluated, and establishing the criteria for assessment.²¹ For a more in-depth discussion on implementing simulations, we encourage readers to review Vallev and Paskevich’s²¹ discussion on assessing clinical skills of the student.

Nontraditional teaching strategies, such as crossword puzzles and Jeopardy, have become an important tool to promoting student learning and interest in course readings, as well as promoting confidence and motivation to learn.²²⁻²³ Nontraditional activities, although initially time consuming for the educator to develop, can help students learn the basics regarding clinical anatomy including origin, insertion, muscle action, and nerve intervention. The use of crossword puzzles is an effective instruction method that can help the student learn and recall information related to therapeutic modalities. In addition, crossword puzzles support multiple learning style preferences.²² Crossword puzzles help students choose the anatomical structure that is involved with the orthopedic or general medicine injury provided in the clue or for recalling muscle origin and insertions.

CURRICULUM SITUATIONS

There are many ways programs can address the clinical anatomy needs of their students. Our aim with the following discussion is to highlight several common and successful methods employed currently with ATEPs, which we have identified through informal conversations with program directors across the country. One ideal situation for infusing anatomy within an athletic training curriculum is to have the introductory class taught by an athletic trainer, particularly with a strong background in the subject matter. The advantages to this situation are the assurance of content coverage and the ability to provide profession-related examples during the lecture and laboratory sections. The instructor is also able to connect anatomy content within other athletic training classes he/she teaches and can help colleagues with their classes via anatomy class material, pictures, and examples. Another benefit is the periodic content updates, which the AT educator can give the clinical staff who can challenge the student to apply the knowledge in the clinical setting immediately after learning the concept. If this is not obtainable, another feasible option is to have a separate lab section associated with an anatomy course (eg, kinesiology, applied anatomy and kinesiology) but taught by an athletic trainer. This option will allow for the same athletic training-specific connection to the course material.

Another idyllic situation involves the development of an athletic training specific anatomy course, which would be taught by an athletic trainer. We suggest having students enroll in the anatomy course simultaneously with their evaluation or assessment courses. The advantages of this situation are the assurance that content is reviewed and information gaps filled. The instructor can also teach the evaluation class or work with another instructor to connect the content. Another benefit is the ability to assume that the students have obtained the foundation information in the pre-professional class and then truly make the class profession-specific and “advanced” in nature.

The final component includes the addition of a cadaver and/or a hands-on anatomy lab to either of the above lecture courses. The use of cadavers can exponentially help learning, knowledge retention, and knowledge application. Students can conceptualize the course material beyond the illustrations in a textbook and begin to appreciate the dynamics of the human body. A review of professional curriculums for physical therapy, medicine, and physicians assistant education programs indicates that cadaver labs are used to promote and facilitate learning and retention of anatomical concepts. Suggestions for inclusion of cadaver anatomy include combining efforts with a physical therapy department or medical school that may already have access to cadavers or use them currently in their programs. Some biology departments may also be willing to combine efforts and/or share costs with cadaver lab opportunities.

Programs that may not have the opportunity to collaborate with other on-campus programs or have access to cadavers can still provide an authentic experience to their students. There are books and flash cards that use only cadaver pictures, which provide some of the benefits listed above. Cadaver pictures from web

sources can be added into multimedia modes. Even though these examples do not allow for hands-on interaction as compared to real cadavers, they can still teach a student important concepts. Examples of these important concepts include anatomical structure identification (important as structures are not nicely colored as in artist-created pictures), differences in structure composition, and anatomical variations. Also, anatomical resources that can be placed within the athletic training learning area will allow students repeated exposure to the material. Some examples of these resources are provided in Appendix I. The resources provided in Appendix I not only address different student learning styles but can also be used for testing purposes in a variety of classes. The best example is placing numbered stickers on the resources set up at “stations” and asking students to identify structures or answer questions about the anatomical structures. Another example of how the resources can be used in class is having students use the disarticulated skeleton to identify convex and concave bony articulations and practice joint mobilizations. Students can use software during lab time and individual study time. The interactive 3-D nature of many software programs allows the student to gain multiple perspectives of an image, which is often very comparable to the cadaver. Primal Pictures®, one of the leading anatomy software programs, has affordable licensing agreements for schools and provides educators and students the opportunity to actively engage in the learning process.

Although the aforementioned “ideal situations” where athletic training faculty are teaching the pre-professional course or an advanced anatomy course within the ATEP are unlikely, the purposeful addition of anatomical information, reviews, and practice applications in other classes is not unreasonable. We have outlined these classes in the first column of Table 2. Discourse of anatomy can also be added into medical terminology, therapeutic modalities, exercise physiology, and emergency medicine.

CONCLUSION






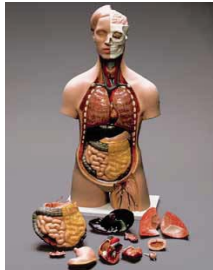



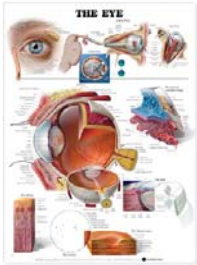
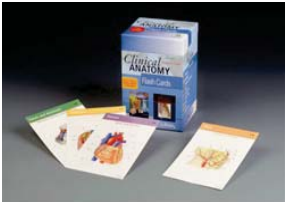
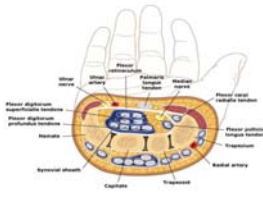
We believe that students who have a solid understanding and appreciation of anatomy, particularly clinical anatomy, demonstrate a stronger ability to grasp the foundations of athletic training; specifically, they possess stronger clinical evaluation and treatment skills. Although students do not have a preferred learning style and current literature questions the efficacy of determining a student’s learning style, they may demonstrate preferences for one style over another. The process of learning, regardless of the content, is ongoing and educators need to provide optimal learning environments for students. Furthermore, many of the pedagogical tools discussed in this article can be easily applied to other athletic training specific concepts, not just clinical anatomy.

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APPENDIX I. Common Anatomical Resources to Supplement Teaching Methods

Resource	Description	Example
Muscular Models: Muscular Arm Muscular Leg Muscular Hand Muscular Foot	Allows students to take apart and put back together different muscles by body part. This instills an understanding of how muscles are layered on the skeleton. It also reinforces attachment sites and neurovascular pathway information. This can be compared to their own personal surface anatomy to gain an understanding of its application during evaluations.	 
Ligamentous Models: Shoulder Wrist and Hand Knee Ankle	Allows students to examine where ligaments and capsules are attached to the skeleton. Students can also gain an understanding of what motions are restricted and what joints are stabilized by these anatomical structures.	 
Additional Models: Eye Ear Torso	Allows students to take apart and put together anatomical structures. This instills an understanding of layering, ordering, and function.	 
Skeletons: Full Individual	Allows students to touch attachment sites of muscles and ligaments to better understand how the insertion moves towards the origin to create an action. Also aids in better practice of surface palpations. Encourages individual hands-on learning of anatomical bony landmarks.	 
Charts: Muscular system (front/back, superficial/deep) Nervous system Vascular system Eye and ear Respiratory System Heart	Allows students to see global and local anatomical concepts. Allows students to compare "normal" anatomical structures with charts showing injured/diseased anatomical structures. Labeled charts will also allow comparisons to models. Neurovascular pathways and their connection to rehabilitation will improve understanding.	 
Flashcards: Various Parts Cross Sectional Pictures	Allows students to review anatomical structures individually. Encourages self-quizzing with immediate access to information found on the back. Aids in understanding diagnostic imaging.	 

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