**CORE STRANDS and Standards**

**STRAND 1 Students will explore the fundamental aspects of Exercise Science/Sports Medicine.**

**Standard 1** Identify members of the Sports Medicine team.

* + - Recognize the primary members of the sports medicine team to include:
      * Coach
      * Athlete
      * Parents
      * Team Physician
      * Certified Athletic Trainer
      * Allied Health Professionals

**Standard 2** Explore a variety of therapeutic careers and describe the job duties and skills, education required, job settings, and potential salary for:

* + - Certified Athletic Trainer (AT)
    - Physical Therapist (PT)
    - Physical Therapy Assistant (PTA)
    - Occupational Therapist (OT)
    - Occupational Therapy Assistant (OTA)
    - Exercise Physiologist
    - Orthopedic Surgeon
    - Physician
      * DO
      * MD
    - Physician Assistant (PA)
    - Nurse Practitioner (NP)
    - Biomechanist
    - Prosthetist
    - Orthotist
    - Podiatrist
    - Chiropractor (DC)
    - Sports Psychologist
    - Registered Dietician (RD)
    - Emergency Medicine
      * EMT
      * Paramedic
    - Certified Strength & Conditioning Specialist/Personal Trainer (CSCS)
    - Massage Therapist (LMT)

**Standard 3** Explain legal issues and legal terminology.

* + - Discuss risk management in an athletic setting
      * Collision
      * Contact
      * Non-contact
      * Surfaces
    - Define legal terminology and discuss issues including:
      * Assumption of risk
      * Battery
      * Commission
      * Omission
      * Failure to warn
      * HIPAA
      * Informed consent
      * Liability
      * Malpractice
      * Negligence
        + Duty of care
        + Breach of duty
        + Damage/injury occurred
        + Proximal cause
      * Standard of care
      * Statute of limitations
      * Good Samaritan law
    - Discuss parameters of ethical conduct and associated issues including:
      * Americans with Disabilities Act (ADA)
      * Cheating
      * Drug testing
      * Fair play and sportsmanship
      * Performance enhancing drugs
      * Scope of practice
      * Title IX (gender equity in sports)
      * Winning at all costs
    - Review preventative measures to reduce potential risks of litigation.
      * Medical History & Pre-participation Physical Examination (PPE)
      * Carry liability insurance
      * Continuing education
      * Demonstrate appropriate documentation (SOAP)
      * Follow physician orders and recommendations
      * Have an emergency action plan (EAP)
      * Maintain adequate supervision
      * Maintain good rapport with the Sports Medicine Team
    - **REQUIRED SKILL**-SOAP Note

Strand 1 – OVERVIEW

Lecture

**Strand 1: Students will explore the fundamental aspects of Exercise Science/Sports Medicine.**

**Introduction:**

The term sports medicine refers generically to a broad field of medical practice related to physical activity and sport. The field of sports medicine encompasses under its umbrella several more specialized health care providers that deal with the physically active or athletic populations. It can be further classified as relating either to enhancing performance, or to injury care and management.

**Standard 1: Identify members of the Sports Medicine team.**

In order to be most effective, the health care for the athlete is best approached with a group effort. This group is commonly referred to as the Sports Medicine Team. This team involves a number of people who each perform a specific role relative to the care of an injured athlete. Members of this team usually include the following:

1. **Coach:** The coach is responsible for preventing injuries by ensuring that athletes are properly conditioned, trained in the correct techniques used in the skills of the sport, ensure that protective equipment maintained and is fitted correctly. It is also their responsibility to provide proper first aid in the absence of an athletic trainer. All coaches should be certified in cardiopulmonary resuscitation (CPR) and the use of an AED. It is also the responsibility of the coach to clearly understand the limits of their ability to function as a health care provider in the state where they are employed, and refer their athletes to other appropriate medical providers.
2. **Athlete:** The athlete should learn about the aspects of training and conditioning to assist in injury prevention. They should be well informed about their injury and listen to their body to help prevent re-injury.
3. **Parents:** Parents are particularly important when dealing with the athlete in a junior high and/or high school setting. Coaches, athletic trainers, and physicians should communicate closely with the parents regarding the care and playing status of their athlete.
4. **Team Physician:** The team physician is a physician who works closely with the athletic trainer regarding the care of the injured athlete. They, along with the athletic trainer, assume the responsibility to make the final decisions relative to the course of care and return to play for the athlete.
5. **Athletic Trainer:** The athletic trainer is the one individual who is usually involved in all aspects of care for the injured athlete which includes injury prevention, initial first aid and injury management, evaluating injuries, and designing and supervising rehabilitation programs that can facilitate a safe return to activity.
6. **Other Allied Health providers:** Sometimes, the injury to the athlete will require other health care professionals to be involved. These professionals may include, but are not limited to physical therapists, podiatrists, nutritionists, sport psychologists, dentists, etc. These professionals need to also work closely with the athletic trainer and team physician.

All of these team members need to work closely together to provide an awareness and insight to each other’s issues related to the athlete, to communicate effectively, to provide the highest quality of care, and to return the athlete to play as quickly and as safely as possible.

**Standard 2: Explore a variety of therapeutic careers...**

Including and in addition to the members of the Sports Medicine team, there are many careers that fall into the Sports Medicine category. The following table outlines basic information about these careers:

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| --- | --- | --- | --- | --- | --- |
| **Career** | **Job Duties** | **Skills** | **Education** | **Salary** | **Job Settings** |
| **Athletic Trainer**  **AT or ATC**  <http://www.bls.gov/oco/ocos294.htm> | Prevent, evaluation, care, and rehabilitate injuries. | Tape, Treat injuries, make exercise/nutrition programs, First Responsive medical skills | Bachelors- 4 years Minimum  Masters Recommended  State Licensure | $30,000-$100,000  $65,000 average  $$ | High School, College, Professional Sports Teams, Clinic, Industrial |
| **Biomechanist** | Private sector working with athletes and coaches | Understand A/P, help increase performance of joints/muscles | On-site, BSN, Masters and/or PhD | $60,000-120,000  $$$ | Team, organization, or educational institute |
| **Certified Strength/**  **Conditioning Specialist**  **C.S.C.S**  <http://www.nsca-cc.org/cscs/about.html> | Lead, instruct, and motivate individuals or groups in exercise activities | Exercise Programs, one on one or group training | On-site training/Internship Certification | $19,610-$60,000  $$ | Fitness Facilities, Professional Sports Teams, College, Private Practice |
| **Chiropractor**  **DC**  <http://www.bls.gov/oco/ocos071.htm> | Diagnose and treat patients with health problems of the spine | Provide natural, drugless, nonsurgical health treatments related to the spine. | Undergrad, Chiropractic School, Licensure | $45,540-$96,700  $$$ | Private Practice or Professional Sports Teams |
| **Dietician**  **RD**  <http://www.bls.gov/oco/ocos077.htm> | Prevent and treat illnesses by promoting healthy eating habits and recommending dietary modifications | Plan food and nutrition programs, supervise meal preparation, and oversee the serving of meals | Bachelors, plus licensure | $40,000-$70,000  $$ | Hospital, Private Practice, College, Research Facility |
| **Emergency Medical Technician**  **EMT** | Know and apply basic and some advanced life saving skills to traumatic injuries and conditions | First aid, CPR, IV | Educational program, certification and licensure | $18,000-30,000  $$ | Fire Departments, ER, Urgent Care, Clinics |
| **Exercise Physiologist**  <http://www.bls.gov/soc/2010/soc291128.htm> | Expert in the effect of exercise on the human body | Fitness Evaluation, Make Exercise Programs for overall exercise health | Masters Degree | $40,000-$70,000  $$ | Private practice, gyms/ fitness facilities, human performance labs, rehab clinics |
| **Family Physician**  **MD or DO**  <http://www.bls.gov/oco/ocos074.htm> | Diagnose illness, prescribe, and administer treatment for people with injury or disease | Examine, obtain medical history, order, perform, and interpret diagnostic tests. | Undergrad School, Medical School, Internship, Residency | $186,000-$350,000  $$$$ | Clinic and  Hospital |
| **Massage Therapist**  **LMT**  <http://www.bls.gov/oco/ocos295.htm> | Practice of using touch to manipulate the soft-tissue muscles of the body to restore function. | Swedish/deep-tissue massage, reflexology, acupressure, sports/ neuromuscular massage | Educational Program plus Licensure | $50,000-70,000  $$ | Clinic, hospital, hotels, resorts, with a professional team |
| **Nurse Practioner**  **NP** | Diagnose and follow the patient thru treatment | Treat, diagnose diseases as an independent physician | BSN of Nursing, Masters degree of Nursing | $80,000-110,000  $$$ | Clinic, hospital, usually during regular business hours |
| **Occupational Therapist**  **OT**  <http://www.bls.gov/oco/ocos078.htm> | Help with conditions that are mentally, physically, developmentally, or emotionally disabling for daily living/career. | Assist with daily tasks, exercises, help with memory, vision accuracy, problem solving | Masters minimum  State Licensure | $50,000-$70,000  $$ | Public Schools,  Private Practice, Hospitals, rehabilitation clinics |
| **Occupational Therapy Assistant**  **OTA**  <http://www.bls.gov/oco/ocos166.htm> | Help clients with activities/exercises in a treatment plan developed by an OT | Monitor, record, document, Help with activities | Associates Degree or Internship | $25,000-$40,000  $ | Public Schools,  Private Practice, Hospitals, rehabilitation clinics |
| **Orthopedic Surgeon**  **MD**  <http://www.jobprofiles.org/heaorthopedic.htm> | Use surgical methods to investigate, preserve and restore functions to a patient's extremities or spine. | Evaluation, Review Records, Surgical Repair | Bachelors, Medical School, Internship, and Residency, additional fellowship | $148,300-$302,800  $$$$ | Hospitals and Clinics |
| **Orthotist and Prosthetist** | Research and apply prosthesis. Help patient find the right fit/function | Exercise programs, one-on-one or group training | College and some form of graduate school | $70,000-98,000  $$ | Hospitals, Rehabilitation Facilities, Private Practice |
| **Paramedic** | First on scene, initial assessments, 48 hour shifts | Advanced lifesaving skills | Educational program, certification and licensure, many require fire certification | $25,000-48,000  $$ | Fire Departments, ER, Life Flight |
| **Physical Therapist**  **PT or DPT**  <http://www.bls.gov/oco/ocos080.htm> | Restore, maintain, and promote overall fitness and health, relieve pain, improve mobility. | Help restore function, improve mobility, relieve pain, and prevent/ limit permanent physical problems | Masters  + 4 years  state licensure | $50,000-100,000  $66,000 average  $$$ | Clinic, Home Health Care, Hospitals |
| **Physical Therapy Assistant**  **PTA**  [http://www.bls.gov/oco/ocos167.htm](http://www.bls.gov/oco/ocos167.htm%20) | Help Therapist to make therapy sessions productive. | Exercises, massages, electrical stimulation, paraffin baths, hot and cold packs, traction, ultrasound | Accredited  2 years  Assistant Program | $30,000-$60,000  $41,360  Average  $$ | Clinic, Home Health Care, Hospitals |
| **Physician Assistant**  **PA**  <http://www.bls.gov/oco/ocos081.htm> | Practice medicine under the supervision of physicians and surgeons. | Provide diagnosis, treatment, and preventive healthcare, as delegated by a physician | Educational Program plus Licensure | $68,210- $97,070  $$$$ | Hospital and Clinic |
| **Podiatrist**  <http://www.bls.gov/oco/ocos075.htm> | Diagnose and treat disorders, diseases, and injuries of the foot and lower leg. | Treat corns, calluses, ingrown toenails, bunions, heel spurs, arch problems; ankle and foot injuries, deformities, and infections; and foot complaints | Undergrad, Podiatry School, Licensure | $113,000-$200,000  $$$$ | Hospitals, Sports Teams, Private Practice |
| **Sports Psychologist**  <http://www.bls.gov/oco/ocos056.htm> | Study mental processes/ behavior by observing, interpreting, and recording how people relate to one another and the environment. | Counsel athletes after injury, help with eating disorders, performance enhancement | PhD, plus licensure | $48,000-$110,000  $$$ | Private Practice, Research Facilities, College, Professional Sports Teams |

**Standard 3: Explain legal issues and legal terminology.**

* 1. An injury is defined as damage to the body that restricts activity and/or causes disability.
  2. When considering athletes in all sports, recreational and organized, who participate in sports in one year’s time, there is a significant chance of their sustaining some injury. One responsibility of sports medicine professionals is to try to minimize the risk of injury as much as possible.
  3. Types of Sports
     1. **Collision Sports:** In these sports, athletes use their bodies to deter or punish opponents. (Remember to consider the true intent of the sport.) Collisions may occur in other sports but are “accidental” and not part of the actual intent of the game. Due to the inherent nature of these sports, the risk of injury is fairly high; particularly for catastrophic or severe musculoskeletal injuries.
     2. **Contact Sports:** In these sports, contact occurs incidentally, but is not part of the actual intent of the sport and discouraged by the rules. Injuries in these sports are still quite common.
     3. **Non-contact Sports:** sports where players are physically separated such as to make it nearly impossible for them to make contact during the course of the competition without causing a foul or violation. Acute, traumatic injuries still happen in these sports, but the incidence of chronic, overuse related injuries is greater.

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| **Collision Sports** | **Contact Sports** | **Non-contact Sports** |
| American Football  Ice Hockey  Rugby | Basketball  Baseball  Field hockey  Lacrosse  Rodeo  Soccer  Softball  Water polo  Wrestling | Archery  Badminton  Bowling  Crew/rowing  Cross country running  Curling  Fencing  Golf  Gymnastics  Skiing/Snowboarding  Squash  Swimming  Diving  Tennis  Track and field  Volleyball |

**Legal Terminology:** Terms and definitions that will help minimize the risk of legal issues in Exercise Science/Sports Medicine careers.

1. **Assumption of Risk:** the law recognizes that there are some risks inherent in all activities. It is assumed that an individual who participates in an activity and is injured as a result of the ordinary risk associated with the activity will not have grounds for negligence. However, if another individual’s negligence contributed to that injury, then liability is still a possibility.
2. **Battery:** touching someone without permission.
3. **Commission & Omission:** doing something (commission) or failing to do something (omission) a reasonable person would or would not do under similar circumstances.
4. **Failure to Warn:** failing to inform a participant of potential risks and dangers. When dealing with minors, failing to warn parents and obtain parental consent.
5. **HIPAA:** Health Insurance Portability and Accountability Act. Mandated four main areas of change in the way business is conducted for those in the health care industry. The four areas include:
   1. **Privacy of health information.**
   2. Standards for electronic transactions of health information and claims.
   3. Security of electronic health information.
   4. National identifiers for the parties in health care transactions.
6. **Informed Consent:** being informed of all procedures and the potential risks and benefits of each.
7. **Liability:** the legal responsibility to act in a reasonable and prudent manner. Failure to perform in such a manner makes you legally liable.
8. **Malpractice:** when an individual commits a negligent act while providing care.
9. **Negligence:** Failure to use ordinary or reasonable care. In order to prove negligence, four basic elements must be shown.
   1. Duty of care – an individual has the responsibility for providing care.
   2. Breach of duty – conduct of provider falls short of that duty. Usually via commission or omission.
   3. Injury or damage – results of the breach of duty.
   4. Proximate cause – the injury or damage directly related to the breach of duty.
10. **Standard of Care:** Provides reasonable and prudent care expected as compared to someone with similar education and experience.
11. **Statute of limitations:** The time allowed to file a court case
12. **Good Samaritan Law:** Provide basic legal protection for those who assist a person who is injured or in danger.

**Ethical Conduct and Associated Issues:**

Sports medicine professionals must act at all times with the highest standards of conduct and integrity. Ethics can be defined as a system of moral principles or standards governing conduct and knowledge of right and wrong. Ethical issues in sports often deal with some of the following areas:

1. **Americans with Disabilities Act (ADA):** Federal legislation that opens up services, facilities, and employment opportunities to the 43 million Americans with disabilities. The law was written to strike a balance between the reasonable accommodation of citizens' needs and the capacity of private and public entities to respond. It is not an affirmative action law but is intended to eliminate illegal discrimination and level the playing field for disabled individuals.
2. **Fair Play & Sportsmanship:** http://kidshealth.org/teen/food\_fitness/sports/sportsmanship.html

Many people believe fair play and sportsmanship to be the "golden rule" of the sports world. You demonstrate this when you show respect for yourself, teammates, opponents, for the coaches on both sides, and for the referees, judges, and other officials.

* 1. **Cheating:** Cheating manifests itself in several ways in the world of athletics. One problem with cheating is that it is difficult to know whether a victory is due to training and talent - or cheating. The reality is that the pressure of failing is too much to deal with.  No one wants to be a failure.
  2. **Performance Enhancing Drugs:** These are substances that are used for the express purpose to perform better athletically. More detail regarding these substances will come in an upcoming unit. The point to be made here is that there is an issue regarding the relationship between the uses of these products and cheating in sports.
  3. **Drug Testing:** Due to the prevalence of performance enhancing substances used in sport to gain an unfair advantage, drug testing has become a common tool to try to deter the use of such products. Issues related to drug testing include expense and invasion of privacy. Nearly every sport's governing body has a policy regarding drug use and testing. Some are more stringent than others.

1. **Scope of Practice:** Each career area has guidelines regarding what you can and cannot do. Make sure you are complying with local and federal laws. (See the additional resources for information regarding the use of student athletic trainers.)
2. **Title IX** – Gender equity: Title IX is an addition to the 14th Amendment made in 1972. Title IX states that no person in the United States shall be excluded on the basis of sex or be denied the benefit of any education program or activity receiving Federal financial assistance. The enforcement of this law has increased and been specifically applied to college athletic programs. The underlying principle of gender equity has filtered down into the high school athletic setting.
3. **Winning at all costs**: Our culture views athletics and winning as one when, in fact, they are not.  Athletics is about winning and losing.  You can’t have one without the other.  Our cultural traditions value winning, and why not since it is part of the reason sports exist.  What we fail to teach our children, students, athletes, and society in general is that the honest pursuit of any carries with it the responsibility to do it right.

The following guidelines or measures should be incorporated into the chosen career in order to reduce the **clinician’s risk of litigation:**

1. Be familiar with the medical histories of athletes, clients, or patients.
2. Carry liability insurance.
3. Be informed and current in changes in the standard of care through continuing education.
4. Demonstrate appropriate documentation **(SOAP)**
   1. One of the most important responsibilities sports medicine professionals must do is develop and implement a comprehensive record-keeping system. Accurate records are critical in litigation and serve to improve communication between all members of the sports medicine team.
   2. Documentation concerning pre-participation exams, insurance forms, personal data information, accident reports and injury management, daily treatment or status reports, rehabilitation programs and progress charts, and clearance for participation are essential.
   3. In a legal situation, “if it wasn’t written down, it didn’t happen”!
   4. Injury reporting forms and injury tracking software are available online.
   5. SOAP Format
      1. The recognized system for documentation is the SOAP method.
         1. **S = Subjective**: information that the patient reports.
         2. **O = Objective**: information that can be measured and expressed in a standard format.
         3. **A = Assessment**: what decisions are made with the subjective and objective information gathered.
         4. **P = Plan:** course of treatment to be carried out.
5. Follow physician’s orders and recommendations.
6. Have an emergency action plan **(EAP):**
7. Develop separate EAP for each sport’s field, courts, or gymnasiums
   * 1. Personnel who will need to be on the field during practices and competitions. Each person should understand their role and responsibilities if an emergency occurs. Practice with equipment is recommended.
     2. Equipment that should be available for reach sport.
8. Procedures and policies regarding removal of protective equipment; particularly helmets and shoulder pads.
9. Emergency Communication. Phones need to be readily accessible. Should have land line back up in case of cellular service disruption.
10. Make sure keys to doors, gates or padlocks are easily accessible.
11. Have an annual meeting with all personnel to review roles and responsibilities.
12. Carry contact information for all athletes, and coaches at all times.
13. Always stay within your scope of practice (meaning staying within the boundaries of your training).
14. Maintain qualified and adequate supervision of facilities, employees, and equipment.
15. Maintain good rapport with athletes, parents, coaches, physicians, clients, and colleagues. (sports medicine team)