Orthopedic Surgery and Rehabilitation/Sports Medicine

This session provides participants with an understanding of orthopedic surgery and rehabilitation/ sports medicine and how they fit into the overall health care profession.

CATEGORY

- Health
- Orthopedic Surgery and Rehab
- Sports Medicine

OBJECTIVES

By the end of this session, participants will be able to:

- Learn about the orthopedics and sports medicine specialties.
- Understand the educational requirements for both medical specialties.
- Have an awareness of basic bone anatomy.
- Discuss basic principles of splinting and/or casting.
- Determine the differences between fractures, sprains, and strains.
- Recognize the signs and symptoms of a concussion.
- Understand the signs and symptoms of heat illnesses and basic treatment.

SUPPLIES

- Laptop computer or equipment to view videos
- Fiberglass or other splinting material, if available
- Casting supplies and cast saw, if available
- Athletic braces of various styles and sizes, if available
- Skeleton, if available; if not, print skeleton system images
- X-rays of different types of fractures, if possible (with personal information removed)
- Alcohol-based hand sanitizer
- Nonsterile latex-free gloves in various sizes (if participants are involved with casting/splinting activity)

PREPARATION

- Arrange for an orthopedic surgeon or sports medicine physician to speak to the group.
- Additional speakers that would be helpful include a certified athletic trainer or a cast technician.
- Obtain parent or guardian permission in advance for volunteer participants involved in splint/casting activity.

VIDEOS

Reminder: *Any time you use an outside source, be sure you follow the content owner's or website's permission requirements and guidelines.*

Advisors should preview videos before showing them to make sure they are appropriate for the post.

- "A Day in the Life: Orthopedics" from Boston Children's Hospital
- "What Is Sports Medicine?" from Dr. Adam Cohen, M.D.
- "Basic Upper Extremity Splinting Techniques" from Norton Healthcare
- "Anyone Can Save a Life" from Anyone Can Save a Life

- "Responding to a Concussion" from the Centers for Disease Control and Prevention (CDC)

ADDITIONAL RESOURCES

The following are suggested resources that Advisors may find helpful in planning this session:

- What does an orthopaedic surgeon do?: "Orthopaedics" from the American Academy of Orthopedic Surgeons
- Sports medicine information: "Sports Medicine FAQ" from the American Osteopathic Academy of Sports Medicine
- Basic human skeletal anatomy: "Osteology (Bone Anatomy)" from Medscape
- Images of the skeletal system: "Skeletal system images"
- Differences between sprains and strains: "Sprains, Strains, and Other Soft-Tissue Injuries" from the American Academy of Orthopedic Surgeons
- Understanding bone fractures: "Understanding Bone Fractures—The Basics" from WebMD
- Principles of casting and splinting: "Principles of Casting and Splinting" by Anne S. Boyd, M.D., Holly J. Benjamin, M.D., and Major Chad Asplund, U.S. Marine Corps, from the American Academy of Family Physicians
- Concussion basics: "What Is a Concussion?" and "Concussion Signs and Symptoms" from the Centers for Disease Control and Prevention (CDC)
- Sudden cardiac arrest in youth explained: "Sudden Death in Young People: Heart Problems Often Blamed" from the Mayo Clinic
- Heat illness prevention and treatment poster: "Beat the Heat" from the National Athletic Trainers' Association
- Heat illness explained: "Heat Illnesses" from the University of Connecticut
- Understanding heat-related illness: "Understanding Heat-Related Illness—Symptoms" and "Understanding Heat-Related Illness—Treatment" from WebMD

ADVISOR NOTE: Text in italics should be read aloud to participants. As you engage your post in activities each week, please include comments, discussions, and feedback to the group relating to **Character, Leadership,** and **Ethics**. These are important attributes that make a difference in the success of youth in the workplace and in life.

ACTIVITIES

Introduction

Tell participants: *Orthopedic surgery and rehabilitation is commonly known as orthopedics. This is the medical specialty that treats injuries of the musculoskeletal system such as fractures, sprains, strains, and diseases.*

Sports medicine is a specialty closely related to orthopedics. It includes physicians who are commonly trained in orthopedics, family medicine, pediatrics, internal medicine, or emergency medicine and who treat injuries and illness in active people such as musculoskeletal injuries, concussions, exercise-related heart disease and heat illnesses.

ACTIVITY 1

Speaker

Have the speaker address these topics (if a speaker is not available, show "What Is Sports Medicine" or "A Day in the Life: Orthopedics" and address any participant questions):

- How orthopedics and sports medicine are similar and different
- Educational requirements for both professions, including high school and college courses that would be helpful
- Educational process of medical school, residency, fellowship, etc., for both professions

ACTIVITY 2

Musculoskeletal System

- Provide an overview of basic orthopedic anatomy and bone structure.
- Discuss musculoskeletal injuries such as fractures, sprains, and strains.
- Review X-rays of different types of fractures.
- Display types of athletic braces and discuss their functions.

ACTIVITY 3

Splinting/Casting

- Show "Basic Upper Extremity Splinting Techniques" from Norton Healthcare and address any participant questions.
- Discuss indications for splinting and/or casting.
- Demonstrate proper splinting and casting application (participants may volunteer only after obtaining parent or guardian permission).
- Have participants practice splinting and/or casting.

ACTIVITY 4

Sports Injuries

- Define concussions, athletic-related heart disease (sudden cardiac arrest), and heat illness.
- Show "Anyone Can Save a Life" and "Responding to a Concussion" and address any participant questions.
- Review basic layperson treatment for each of the above.

ADVISOR NOTE

Some sample questions are below. They are designed to help the participants apply what they have learned to their own interests. You are welcome to use these questions or develop your own questions that relate to your post or specific focus area.

REFLECTION

Focusing Questions

- *Discuss the principles related to orthopedics and sports medicine.*
- *Share your thoughts on why increasing awareness of these subjects is important.*
- *Why or why not did you feel comfortable with the splint or cast application?*
- *Which of these two specialties interests you the most?*

	▪ *What did you learn during today's discussion?*
Analysis Questions	• *Discuss feedback from the videos or hands-on practice.* • *What types of ethical situations do you think could arise related to this field?*
Generalization Questions	▪ *What can you do now, during your time as a student, to prepare yourself for this or a similar career in the medical field?* ▪ *Why is this topic important?*

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