



GEORGIA

PEACH STATE PATHWAYS

Career, Technical, & Agricultural Education

HEALTHCARE SCIENCE

COURSE: 25.525 General Medicine

UNIT: 9.1 Medical-Surgical Services- Musculoskeletal Care, Orthopedic, Physical and Occupational Therapy Services



INTRODUCTION

Annotation:

In this unit, students will demonstrate understanding of and perform advanced technical skills in musculoskeletal system care, Physical Therapy and Orthopedics. The Unit will include research into diseases, disorders, or trauma to the musculoskeletal, nervous, and lymphatic systems that might cause a need for the services provided in the Physical Therapy and Orthopedic Career areas. Sub unit lesson plans are included for the 3 body systems. The students will participate in labs demonstrating skills with management of clients with immobilization devices, set up of clients in special devices for promoting mobility and circulation, applying anti-embolic hose to extremities, and the care and use of prosthetic and orthotic devices.

Grade(s):

<input type="checkbox"/>	9 th
<input type="checkbox"/>	10 th
<input checked="" type="checkbox"/>	11 th
<input checked="" type="checkbox"/>	12 th

Time: Five 50 minute periods

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Students with Disabilities:

For students with disabilities, the instructor should refer to the student's IEP to be sure that the accommodations specified are being provided. Instructors should also familiarize themselves with the provisions of Behavior Intervention Plans that may be part of a student's IEP. Frequent consultation with a student's special education instructor will be beneficial in providing appropriate differentiation.



FOCUS STANDARDS

GPS Focus Standards:

HS-TGM-10. Students will demonstrate understanding of and perform advanced technical skills in musculoskeletal system care – Physical Therapy and Orthopedics.

- a. Describe management of clients with immobilization devices.
- b. Set up clients correctly in special devices for promoting mobility and circulation.
- c. Demonstrate techniques for applying anti-embolic hose to extremities.
- d. Demonstrate the care and use of prosthetic and orthotic devices.

HS-TGM-8. Students will understand and utilize terminology related to the human anatomy.

- d. Utilize diagnostic, surgical, and procedural terms and abbreviations related to the musculoskeletal system.
- f. Utilize diagnostic, surgical, and procedural terms and abbreviations related to the nervous system.
- g. Utilize diagnostic, surgical, and procedural terms and abbreviations related to the lymphatic system/immune system.

HS-TGM-9. Students will acquire skills according to career interest and apply those skills in a clinical setting for a minimum of 40 hours.

- a. Demonstrate understanding of knowledge and skills for career focus.
- b. Perform objectives and complete assigned tasks in assigned clinical area according to facility standards according to their scope of practice.

HS-TGM-5. Students will understand the importance of and demonstrate data collection as it relates to the goals, objectives, and implementation of the treatment plan according to their scope of practice.

- a. Observe, record, and report client behavior.
- b. Assist treatment team in observing, reporting, and recording client healthcare needs, strengths, and problems.
- c. Follow policies and protocols of the facility.
- d. Understand and demonstrate all necessary interventions of the patient treatment plan as it relates to their scope of practice.
- e. Examine and demonstrate the importance of client collaboration and acceptance in identifying and implementing appropriate interventions in the treatment plan.
- f. Assist in identifying potential educational needs.

GPS Academic Standards:

ELA9RL. The student understands and acquires new vocabulary and uses it correctly in reading and writing.

SAP2. Students will analyze the interdependence of the integumentary, skeletal and muscular systems as these relate to the protection, support and movement of the human body.

National / Local Standards / Industry / ISTE:

UNDERSTANDINGS & GOALS

Enduring Understandings:

The students will understand that caring for patients/clients with musculoskeletal disorders may involve the management of various devices. They will further understand how to care for clients with immobilization devices. Some special devices promote mobility and circulation. It is important to understand how to evaluate care and use of prosthetic and orthotic devices.

Essential Questions:

- How do I provide care for clients with musculoskeletal disorders?
- How do I manage various devices used in caring for clients with musculoskeletal, nervous and lymphatic disorders?

Knowledge from this Unit: The student will know:

- Anatomy and physiology of the musculoskeletal, nervous and lymphatic system
- Diseases, disorders, and injuries effecting the musculoskeletal, nervous and lymphatic system
- Career opportunities in the Physical Therapy Pathway
- Management of clients with immobilization devices

Skills from this Unit: The student will be able to:

- Assess Range of Motion in order to set up clients correctly in special devices for promoting mobility and circulation.
- Demonstrate techniques for applying anti-embolic hose to extremities.
- Demonstrate the care and use of prosthetic and orthotic devices.



ASSESSMENT(S)

Assessment Method Type: Select one or more of the following. Please consider the type(s) of differentiated instruction you will be using in the classroom.

- ☐ Pre-test
- ☐ Objective assessment - multiple-choice, true- false, etc.
 - ☐ Quizzes/Tests
 - ☐ Unit test
- ☐ Group project
- ☒ Individual project
- ☒ Self-assessment - May include practice quizzes, games, simulations, checklists, etc.
 - ☐ Self-check rubrics
 - ☐ Self-check during writing/planning process
 - ☐ Journal reflections on concepts, personal experiences and impact on one's life
 - ☐ Reflect on evaluations of work from teachers, business partners, and competition judges
 - ☐ Academic prompts
 - ☐ Practice quizzes/tests
- ☒ Subjective assessment/Informal observations
 - ☐ Essay tests
 - ☐ Observe students working with partners
 - ☐ Observe students role playing
- ☐ Peer-assessment
 - ☐ Peer editing & commentary of products/projects/presentations using rubrics
 - ☐ Peer editing and/or critiquing
- ☐ Dialogue and Discussion
 - ☐ Student/teacher conferences
 - ☐ Partner and small group discussions
 - ☐ Whole group discussions
 - ☐ Interaction with/feedback from community members/speakers and business partners
- ☐ Constructed Responses
 - ☐ Chart good reading/writing/listening/speaking habits
 - ☒ Application of skills to real-life situations/scenarios
- ☐ Post-test

Assessment(s) Title:

Physical Therapy and Orthopedic Procedure Patient Care Plan and Oral Report form

Assessment(s) Description/Directions:

Students will research a PT and/or Orthopedic procedure and describe the procedure using the oral report form as a guide for the type of information to include. There is an attachment called Diagnosis Care Plan to explain in more dept the type of information a Physical Therapists includes in a Care Plan.

Attachments for Assessment(s): Please list.

Physical Therapy and Orthopedic Procedure Patient Care Plan and Oral Report form



LEARNING EXPERIENCES

Instructional planning: Include lessons, activities and other learning experiences in this section with a brief description of the activities to ensure student acquisition of the knowledge and skills addressed in the standards. Complete the sequence of instruction for each lesson/task in the unit.

Sequence of Instruction

1. Identify the Standards. Standards should be posted in the classroom for each lesson.

HS-TGM-10. Students will demonstrate understanding of and perform advanced technical skills in musculoskeletal system care – Physical Therapy and Orthopedics.

HS-TGM-8. Students will understand and utilize terminology related to the human anatomy.

HS-TGM-9. Students will acquire skills according to career interest and apply those skills in a clinical setting for a minimum of 40 hours.

HS-TGM-5. Students will understand the importance of and demonstrate data collection as it relates to the goals, objectives, and implementation of the treatment plan according to their scope of practice.

ELA9RL. The student understands and acquires new vocabulary and uses it correctly in reading and writing.

SAP2. Students will analyze the interdependence of the integumentary, skeletal and muscular systems as these relate to the protection, support and movement of the human body.

2. Review Essential Questions.

- How do I provide care for clients with musculoskeletal disorders?
- How do I manage various devices used in caring for clients with musculoskeletal, nervous and lymphatic disorders?

3. Identify and review the unit vocabulary. Musculoskeletal, Nervous, and Lymphatic systems

Lesson 1-2

4. Assessment Activity. Lecture on Physical & Occupational Therapy (to be developed by teacher)

1. Describe the various tests and measures used by physical and occupational therapists in assessing the tasks, activities, and environment in the work place. (Included in the vocabulary section are labs on reflex and muscle strength assessment)
2. Describe the integration of the data generated from the therapist's evaluation into a treatment program.
3. Discuss safety issues in the work place and their implication to employees.
4. Discuss ergonomics and body mechanics in the work place and their integration into a treatment program.

5. Discuss the principles of a work conditioning or work hardening program.
6. Describe the components of a client assessment.

Lesson 2

Review Role of PT & OT

4. Assign Physical Therapy and Orthopedic Procedure Patient Care Plan and Oral Report (allow research time) on Day 1 and give due date

Lessons 3-5 -Use Musculoskeletal System subunit plan for this lesson(3 periods)

5. Lecture on multimedia (musculoskeletal disorders)
6. Assign Lab Range-of-Motion (goes with Musculoskeletal subunit)
7. Lecture on multimedia (Effects of Immobilization)

Lessons 6-7 Use Nervous System subunit lesson plan for this part (2 Periods)

8. Assign Lab Reflex Assessment (goes with subunit Nervous System)

Lesson 8-9 Use Lymphatic System subunit lesson plan for this part (2 lessons)

Conduct a review during lesson 9

Attachments for Learning Experiences: Please list.

- Oral Report Form on Physical Therapy and Orthopedic Procedures
- Multimedia
- Multimedia **musculoskeletal disorders-see link below**
- Multimedia **Effects of Immobilization**

Notes & Reflections:

There are four research reports with oral reports, one on each body system and one on Physical therapy and Orthopedic procedures so allow plenty of time for research. Scheduled time in the computer lab might be a good idea. The lesson plan "Get a Grip" is for 6-8 graders, but shows how to build an assessment instrument to measure grip strength. Consider assigning a group of students to each of the sub units for the presentation and require that they develop a test for that sub unit of 10 questions. This will allow more time for students to prepare their part. All assignments can be made on day 1 with this method.



CULMINATING PERFORMANCE TASK (Optional)

Culminating Unit Performance Task Title:

- Oral Report on Physical Therapy and Orthopedic Procedures

Culminating Unit Performance Task Description/Directions/Differentiated Instruction:

The subunit labs that are assigned with each body system can be done with the class as a whole following demonstration by the teacher depending on the resources available to perform each procedure. Teacher can select specific diseases and disorders from each of the body systems included in this lesson (rather than assigning all diseases for each body system) that require use of special devices. for example: Total hip, knee, shoulder replacements, amputations, CVA, Spinal Cord injuries, Lymphedema of the arm or leg, fractures and casts. Devices students might see in an acute care setting such as the CPM, TED sequential Hose, Traction, Immobilizers, and abduction devices could be included.

Attachments for Culminating Performance Task: Please list.

- Oral Report on Physical Therapy and Orthopedic Procedures



UNIT RESOURCES

Web Resources:

http://www.apta.org/AM/Template.cfm?Section=Policies_and_Bylaws&TEMPLATE=/CM/ContentDisplay.cfm&CONTENTID=26229

Multimedia: Care of client with musculoskeletal injury or disorder

<http://www.scribd.com/doc/9378673/musculoskeletal-disorders-care-of-client-with-fall-2005?autodownload=ppt>

<http://teachhealthk-12.uthscsa.edu/>

Multimedia resource: Projects for teaching by students. Manual Muscle Testing, Anatomy Review, and others

<http://www.iit.edu/~ipro309s08/links.html>

<http://www.purchon.com/biology/muscles.htm>

<http://www.iit.edu/~ipro309s08/links.html>

<http://www.georgiapt.com/patientforms.html>

Attachment(s):

- The Hat Game from AHEC Resource book “FACES”
- Components of Documentation within the Patient/Client Management Model
- Diagnosis Care Plan
- Get a Grip Lesson Plan (pdf)
- Get a Grip multimedia
- Muscle Test Grading Table

Materials & Equipment:

Equipment for labs is listed on the subunit lesson plans

What 21st Century Technology was used in this unit:

<input checked="" type="checkbox"/>	Slide Show Software	<input type="checkbox"/>	Graphing Software	<input type="checkbox"/>	Audio File(s)
<input type="checkbox"/>	Interactive Whiteboard	<input type="checkbox"/>	Calculator	<input type="checkbox"/>	Graphic Organizer
<input type="checkbox"/>	Student Response System	<input checked="" type="checkbox"/>	Desktop Publishing	<input checked="" type="checkbox"/>	Image File(s)
<input type="checkbox"/>	Web Design Software	<input type="checkbox"/>	Blog	<input type="checkbox"/>	Video
<input type="checkbox"/>	Animation Software	<input type="checkbox"/>	Wiki	<input type="checkbox"/>	Electronic Game or Puzzle Maker
<input type="checkbox"/>	Email	<input checked="" type="checkbox"/>	Website		