Western Technical College

10524143  Physical Therapist Assistant Therapeutic Modalities

Course Outcome Summary

Course Information

<table>
<thead>
<tr>
<th>Description</th>
<th>Develops the knowledge and technical skills necessary to perform numerous therapeutic modalities likely to be utilized as a PTA.</th>
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</thead>
<tbody>
<tr>
<td>Career Cluster</td>
<td>Health Science</td>
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<tr>
<td>Instructional Level</td>
<td>Associate Degree Courses</td>
</tr>
<tr>
<td>Total Credits</td>
<td>4</td>
</tr>
<tr>
<td>Total Hours</td>
<td>108</td>
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</tbody>
</table>

Textbooks


Success Abilities

1. Apply mathematical concepts.
2. Cultivate Passion: Enhance Personal Connections
3. Cultivate Passion: Expand a Growth-Mindset
4. Cultivate Passion: Increase Self-Awareness
5. Demonstrate ability to think critically.
6. Demonstrate ability to value self and work ethically with others in a diverse population.
7. Live Responsibly: Develop Resilience
8. Live Responsibly: Embrace Sustainability
9. Live Responsibly: Foster Accountability
10. Refine Professionalism: Act Ethically
11. Refine Professionalism: Improve Critical Thinking
12. Refine Professionalism: Participate Collaboratively
13. Refine Professionalism: Practice Effective Communication
14. Transfer social and natural science theories into practical applications.
15. Use effective communication skills.
16. Use technology effectively.

Program Outcomes

1. Demonstrate clear and collaborative communication with patients, families, and health care team
2. Exhibit behaviors and conduct that reflect respect and sensitivity according to physical therapy practice standards
3. Function under the supervision of a physical therapist in a safe, legal, ethical manner to ensure the safety of patients, self, and others throughout the clinical interaction
4. Produce documentation to support the delivery of physical therapy services
5. Demonstrate critical thinking skills to implement and modify treatment within a plan of care under the direction and supervision of a physical therapist
6. Perform data collection essential for carrying out the plan of care under the direction and supervision of the physical therapist
7. Perform technically competent, evidence-based physical therapy interventions under the direction and supervision of the physical therapist
8. Educate patients, families, and other health providers
9. Integrate components of operational and fiscal practices of physical therapy service in a variety of settings

Course Competencies

1. **Apply principles of physics to therapeutic interventions.**
   
   Assessment Strategies
   1.1. by developing an analysis (written, graphic, oral, or 3D model)
   1.2. by answering questions on one or more exams
   
   Criteria
   
   You will know you are successful when
   
   1.1. you accurately identify principles of physics related to therapeutic modalities.
   1.2. you explain the principles of physics as it relates to therapeutic modalities.
   1.3. you apply the principles of physics related to therapeutic modalities.
   
   Learning Objectives
   
   1.a. Define radiant energy, electromagnetic radiation, wavelength, frequency, resistance, impedance, and current.
   1.b. Discuss the laws governing the effects of electromagnetic radiation.
   1.c. Explore application of electromagnetic spectrum to therapeutic modalities.
   1.d. Identify principles of physics that relate to therapeutic modalities.
   1.e. Discuss principles of physics related to each modality as it is covered in the course.

2. **Perform patient and caregiver education.**
   
   Assessment Strategies
   2.1. in a skill demonstration
   2.2. by answering questions on one or more exams
   
   Criteria
   
   You will know you are successful when
   
   2.1. you select the correct equipment or supplies.
   2.2. you verbalize an explanation of the process or activity.
   2.3. your explanation presents sound reasoning as you describe the process or activity.
Learning Objectives
2.a. Identify factors that contribute to learning and retention.
2.b. Discuss tools and information available in the physical therapy profession to facilitate patient and caregiver education.
2.c. Describe the physics of each modality, indications, precautions, contraindications, considerations and reason for use in common language.
2.d. Assess patient and caregiver understanding of material.
2.e. Adjust patient and caregiver education to meet the learning needs and styles of each patient or caregiver.
2.f. Explain the effect of the modality on tissue healing.

3. Apply therapeutic ultrasound.

Assessment Strategies
3.1. by responding to a case scenario (written, oral)
3.2. in a skill demonstration
3.3. by answering questions on one or more exams

Criteria
You will know you are successful when
3.1. you select correct equipment and supplies.
3.2. you perform all critical steps in the right order.
3.3. you position yourself and the patient correctly and apply correct body mechanics.
3.4. you employ appropriate interventions.
3.5. you follow safety procedures.
3.6. you identify ultrasound.
3.7. your explanation presents sound reasoning as you describe the process or activity.
3.8. you explain the applications principles of therapeutic ultrasound.
3.9. you demonstrate skilled application of therapeutic ultrasound.

Learning Objectives
3.a. Describe physiologic response to thermal effects of deep agents.
3.b. Describe physiologic response to non-thermal effects of deep agents.
3.c. List the modalities that qualify as deep agents.
3.d. Demonstrate safe and competent application of deep agents including performance of critical steps in the right order.
3.e. Describe the physics of each deep thermal modality, indications, precautions, contraindications, considerations and reason for use in common language.
3.f. Assess patient response to the intervention and notify the supervising physical therapist of pertinent information.
3.g. Adjust intervention using deep agents within the established plan of care by the physical therapist.
3.h. Recognize when the intervention should not be provided or discontinued based on changes in the patient status and notify the supervising physical therapist.
3.i. Document the application parameters of deep agents correctly.
3.j. Apply knowledge of deep agents to case scenarios.

4. Examine therapeutic applications of electromagnetic modalities.

Assessment Strategies
4.1. by developing an analysis (written, graphic, oral, or 3D model)
4.2. by answering questions on one or more exams

Criteria
You will know you are successful when
4.1. you differentiate between types of light therapy.
4.2. you identify correct equipment and supplies.
4.3. you define safety procedures.
4.4. you describe application of electromagnetic modalities.
4.5. you determine appropriate use of electromagnetic modalities.

Learning Objectives
4.a. Define stimulated emissions.
4.b. List types of lasers.
4.c. Describe clinical applications of lasers.
4.d. Demonstrate safe and competent application of light therapy including performance of critical steps in the right order.
4.e. Describe the physics of light therapy, indications, precautions, contraindications, considerations and reason for use in common language.
4.f. Assess patient response to the intervention and notify the supervising physical therapist of pertinent information.
4.g. Adjust intervention using light therapy within the established plan of care by the physical therapist.
4.h. Recognize when the intervention should not be provided or discontinued based on changes in the patient status and notify the supervising physical therapist.
4.i. Document the application parameters of light therapy correctly.
4.j. Apply knowledge about light therapy using case scenarios.

5. **Apply electrotherapeutic interventions.**

**Assessment Strategies**
5.1. by responding to a case scenario (written, oral)
5.2. in a skill demonstration
5.3. by answering questions on one or more exams

**Criteria**

*You will know you are successful when*
5.1. you identify electrotherapeutic interventions.
5.2. you select correct equipment and supplies.
5.3. you perform all critical steps in the right order.
5.4. you position yourself and the patient correctly and apply correct body mechanics.
5.5. you employ appropriate interventions.
5.6. you follow safety procedures.
5.7. your explanation presents sound reasoning as you describe the process or activity.
5.8. you explain the applications principles of electrotherapeutic interventions.
5.9. you demonstrate skilled application of electrotherapeutic interventions.

**Learning Objectives**
5.a. Describe basic principles of electricity.
5.b. Discuss components of electrical currents, waveforms, electrical circuits and current flow through biologic tissue.
5.c. Discuss physiologic responses to electrical current.
5.d. List the modalities that qualify as electrotherapeutic interventions.
5.e. Demonstrate safe and competent application of electrotherapeutic interventions including performance of critical steps in the right order.
5.f. Describe the physics of electrotherapeutic interventions, indications, precautions, contraindications, considerations and reason for use in common language.
5.g. Assess patient response to the intervention and notify the supervising physical therapist of pertinent information.
5.h. Adjust intervention using electrotherapeutic interventions within the established plan of care by the physical therapist.
5.i. Recognize when the intervention should not be provided or discontinued based on changes in the patient status and notify the supervising physical therapist.
5.j. Document the application parameters of electrotherapeutic interventions correctly.
5.k. Apply knowledge about the effects of changes in current parameters to therapeutic protocols using case scenarios.

6. **Apply biofeedback interventions.**

**Assessment Strategies**
6.1. by responding to a case scenario (written, oral)
6.2. in a skill demonstration
6.3. by answering questions on one or more exams

**Criteria**
You will know you are successful when

6.1. you identify biofeedback interventions.
6.2. you select correct equipment and supplies.
6.3. you perform all critical steps in the right order.
6.4. you position yourself and the patient correctly and apply correct body mechanics.
6.5. you employ appropriate interventions.
6.6. you follow safety procedures.
6.7. your explanation presents sound reasoning as you describe the process or activity.
6.8. you explain the applications principles of biofeedback interventions.
6.9. you demonstrate skilled application of biofeedback interventions.

Learning Objectives

6.a. Examine biofeedback instrumentation.
6.b. Discuss motor unit recruitment, measuring electrical activity, and converting electromyographical activity to meaningful information.
6.c. List clinical applications for biofeedback.
6.d. Demonstrate safe and competent application of biofeedback including performance of critical steps in the right order.
6.e. Describe the physics of biofeedback, indications, precautions, contraindications, considerations and reason for use in common language.
6.f. Assess patient response to the intervention and notify the supervising physical therapist of pertinent information.
6.g. Adjust biofeedback intervention within the established plan of care by the physical therapist.
6.h. Recognize when the intervention should not be provided or discontinued based on changes in the patient status and notify the supervising physical therapist.
6.i. Document the application parameters of biofeedback correctly.
6.j. Apply knowledge of biofeedback to case scenarios.

7. Apply compression interventions.

Assessment Strategies

7.1. by responding to a case scenario (written, oral)
7.2. in a skill demonstration
7.3. by answering questions on one or more exams

Criteria

You will know you are successful when

7.1. you identify compression interventions.
7.2. you select correct equipment and supplies.
7.3. you perform all critical steps in the right order.
7.4. you position yourself and the patient correctly and apply correct body mechanics.
7.5. you employ appropriate interventions.
7.6. you follow safety procedures.
7.7. you present sound reasoning in your explanation as you describe the process or activity.
7.8. you explain the applications principles of compression interventions.
7.9. you demonstrate skilled application of compression interventions.

Learning Objectives

7.a. Describe purpose, structure and function of the lymphatic system.
7.b. Compare edema and lymphedema.
7.c. Discuss safe inflation pressures.
7.d. Demonstrate safe and competent application of compression interventions including performance of critical steps in the right order.
7.e. Describe the physics of compression interventions, indications, precautions, contraindications, considerations and reason for use in common language.
7.f. Assess patient response to the intervention and notify the supervising physical therapist of pertinent information.
7.g. Adjust compression interventions within the established plan of care by the physical therapist.
7.h. Recognize when the intervention should not be provided or discontinued based on changes in the patient status and notify the supervising physical therapist.
7.i. Document anthropometric characteristics of the patient and application parameters of the compression.
intervention correctly.
7.j. Apply knowledge of compression interventions to case scenarios.

8. **Apply mechanical traction techniques.**

**Assessment Strategies**
- by responding to a case scenario (written, oral)
- in a skill demonstration
- by answering questions on one or more exams

**Criteria**
*You will know you are successful when*
- you identify the components of mechanical traction.
- you select correct equipment and supplies.
- you perform all critical steps in the right order.
- you position yourself and the patient correctly and apply correct body mechanics.
- you employ appropriate interventions.
- you follow safety procedures.
- your explanation presents sound reasoning as you describe the process or activity.
- you explain the applications principles of mechanical traction.
- you demonstrate skilled application of mechanical traction.

**Learning Objectives**
- Describe physical effects of traction on spinal movement, bone, ligaments, disk, facet joints, muscles and nerves.
- Explore the different types of mechanical traction techniques.
- Compare intermittent and sustained traction.
- Demonstrate safe and competent application of mechanical traction techniques including performance of critical steps in the right order.
- Describe the physics of mechanical traction techniques, indications, precautions, contraindications, considerations and reason for use in common language.
- Assess patient response to the intervention and notify the supervising physical therapist of pertinent information.
- Adjust intervention using mechanical traction techniques within the established plan of care by the physical therapist.
- Recognize when the intervention should not be provided or discontinued based on changes in the patient status and notify the supervising physical therapist.
- Document the application parameters of mechanical traction techniques correctly.
- Apply knowledge of mechanical traction techniques to case scenarios.

9. **Apply manual therapy techniques.**

**Assessment Strategies**
- by responding to a case scenario (written, oral).
- in a skill demonstration.
- by answering questions on one or more exams.

**Criteria**
*You will know you are successful when*
- you identify the components of various manual therapy techniques.
- you select correct equipment and supplies.
- you perform all critical steps in the right order.
- you position yourself and the patient correctly and apply correct body mechanics.
- you employ appropriate interventions.
- you follow safety procedures.
- your explanation presents sound reasoning as you describe the process or activity.
- you explain the applications principles of certain manual therapy techniques.
- you demonstrate skilled application of certain manual therapy techniques.

**Learning Objectives**
- Describe physiologic reflexive and mechanical effects of massage.
- Discuss psychologic effects of massage.
9.c. List various massage treatment techniques.
9.d. Demonstrate safe and competent application of massage including performance of critical steps in the right order.
9.e. Describe the mechanism of massage, indications, precautions, contraindications, considerations and reason for use in common language.
9.f. Assess patient response to the intervention and notify the supervising physical therapist of pertinent information.
9.g. Adjust intervention using massage within the established plan of care by the physical therapist.
9.h. Recognize when the intervention should not be provided or discontinued based on changes in the patient status and notify the supervising physical therapist.
9.i. Document the application parameters of massage correctly.
9.j. Apply knowledge of massage to case scenarios.

10. **Assess integumentary integrity.**

Assessment Strategies
10.1. in a skill demonstration
10.2. by answering questions on one or more exams

Criteria
*You will know you are successful when*
10.1. you recognize absent or altered sensation.
10.2. your explanation presents sound reasoning as you describe the process or activity.
10.3. you identify normal and abnormal integumentary changes.
10.4. you describe positions, activities, and postures that relate to integumentary changes.
10.5. you identify viable versus nonviable tissue.

Learning Objectives
10.a. Describe characteristics of healthy or normal integumentary system.
10.b. Perform integumentary assessment including color, integrity, temperature and sensation with critical steps in the right order at start and end of modality application.
10.d. List considerations to integumentary integrity associated with application of modalities.
10.e. Make recommendations for change in modality interventions related to integumentary integrity to the supervising physical therapist.

11. **Assess pain.**

Assessment Strategies
11.1. by responding to a case scenario (written, oral)
11.2. in a skill demonstration
11.3. by answering questions on one or more exams

Criteria
*You will know you are successful when*
11.1. you identify activities, positions, and postures that aggravate or relieve pain or altered sensations.
11.2. you identify standardized questionnaires, graphs, behavioral scales, or visual analog scales for pain.
11.3. data is recorded completely and accurately.

Learning Objectives
11.a. Define pain.
11.c. Discuss goals in managing pain.
11.d. Discuss neurophysiologic explanations of pain control.
11.e. Perform pain assessment including critical steps in the right order.
11.f. Utilize information from pain assessment appropriately in performing interventions using case scenarios.
11.g. Notify supervising physical therapist of pertinent results of pain assessment if necessary.