Anatomy
- Knowledge of the anatomical structure and function of the nociceptive system-central, peripheral and autonomic
- Systems involved in chronic pain-nervous system, musculoskeletal system, and affective influence
- Affective/emotional processing and the impact as related to musculoskeletal system and PT practice

Neurobiology/Physiology
- Understand the biology of pain and the process of sensitization that leads to chronic pain
- Aware of interaction of the pain system with affective system
- Understands current scientific understanding of pain processing and theories related to chronic pain development

Pathophysiology
- Mechanisms behind development of: Depression, Anxiety, Fibromyalgia, Chronic pain syndromes (interstitial cystitis, pelvic pain, vulvar pain, coccygodynia, pre-menstrual syndrome)
- Specific diagnostic criteria for classifying chronic pelvic pain
- Impact of affective co-morbidities on chronic pain

Educational Objectives
The student will be able to:
- Describe anatomy and biology of nociception within the neurologic system
- Communicate the process of normal neuromuscular function and types of dysfunction for both acute and chronic pain
- Communicate the neurobiological mechanisms related to emotional processing and affective state

- Describe normal nociceptive function. Can implement tests to measure neuromuscular function and use correct language to identify pain system dysfunction (i.e. allodynia, hyperalgesia)
- Discuss inter-relationships of pain to neuromusculoskeletal system and affective processing in patient friendly language
- Can utilize evidence to support rationale for identifying mechanisms contributing to chronic pain (structural, emotional, environmental, gender, genetic)

- Describe evidence supporting mechanisms contributing to developing each of the listed conditions as well as the health and musculoskeletal related consequences of each condition
- Discuss application of diagnostic criteria for chronic pelvic pain conditions
- Discuss prevalence statistics for dysmenorrhea, endometriosis and the relationship between these conditions
- Discuss the hormonal influence on symptoms related to pre-menstrual syndrome (PMS) and premenstrual dysphoric disorder (PMDD)
- Utilize appropriate terminology and classification categories as listed in the DSM – IV/V in order to facilitate interdisciplinary communication
- Discuss evidence supported mechanisms of how affective conditions (anxiety and depression) and behaviors (fear avoidance, catastrophizing, poor coping) contribute to development of and ongoing nature of chronic pain

Level of Mastery*
- P
- F
- P
### Exercise Science
- Evidence of how exercise impacts local tissue and overall body system that is specific to pain and affective system functioning

### Pharmacology
- Common medications used to treat Depression, Anxiety, and Chronic pain syndromes (interstitial cystitis, pelvic pain, vulvar pain, coccygodynia) conditions

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<th>Exercise Science</th>
<th>Pharmacology</th>
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<td>• Modify planned exercise interventions to accommodate pain and affective system dysfunction.</td>
<td>• Discuss possible impact of medications used to treat each of the conditions listed on the physical therapy plan of care</td>
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* F = Familiar; P = Proficient; M = Mastery