

Chronic Pain Management: The Importance of Sex and Gender-Based Approach



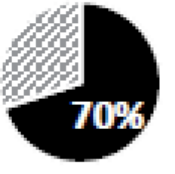


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Twenty-eight million women in the United States suffer from chronic pain. 70% of patients seeking treatment for chronic pain are women, and are found to return to pain clinics thirty-two times more frequently than men. These findings indicate that women experience insufficient pain relief following intervention. Given that 80% of pain research has been conducted on men, most knowledge of pain pathways in women are extrapolations, shedding light on the inefficiencies of current treatment algorithms, and the importance of a sex and gender-based approach to chronic pain.

The biochemistry and physiology of the pain pathway, as well as the pharmacokinetics and pharmacodynamics of medications used to remedy pain responses, are significantly different between men and women. Low-estradiol states result in a reduction in both mu-opioid receptor recruitment and basal activation, leading to significant hyperalgesia and sensitivity to chronic pain in women as compared to men. Further compounding the dichotomy between the chronic pain response is the response to analgesics. Women have lower levels of glucuronidation, higher volumes of distribution, and lower clearance of commonly administered analgesics as compared to men. Psychosocial factors such as gender roles, expectations surrounding pain, and coping strategies also determine how pain is perceived and ultimately influence how pain is treated.

These findings are just beginning to shed light on the ways in which women and men respond differently *in vivo* to pain. However, the decision to treat women and men as separate entities with respect to pain management should not be a binary one. While patients should be treated as individuals, pre-menopausal, post-menopausal and transgender women, should all be met with an approach that takes into account the sex and gender differences that exist. Pain management physicians should take heed of these complex differences and utilize a sex and gender-based approach while managing patients.

CHRONIC PAIN MANAGEMENT: THE IMPORTANCE OF A SEX AND GENDER-BASED APPROACH

THE ISSUE	THE MECHANISMS	THE SOLUTION
<p>~28M U.S. Women Suffering from Chronic Pain</p>	 <p>Noiceptive Pathway Differences Lower kappa-opioid receptor availability and reduced mu-opioid receptor recruitment in women highlight pathway differences at the molecular level</p>	<p><i>As providers, we must appreciate that men and women respond differently to both pain and its treatment</i></p>  <p><i>All patients should be treated as individuals; pre-menopausal, post-menopausal, and transgender women should be met with an individualized approach to pain management that takes the sex and gender differences that exist into account</i></p>
 <p>Of Patients Seeking Treatment for Chronic Pain are Women</p>	 <p>Pharmacological Differences Women require higher doses of analgesic agents to achieve adequate pain control given differences in pharmacokinetic and pharmacodynamic processing</p>	
<p>♀ > ♂</p> <p>Women are 32x More Likely to Return to Pain Clinics than Men</p>	<p>♀</p> <p>Sex-Specific Considerations OCPs, age, pregnancy, and hormonal fluctuations impact clearance and metabolism of analgesics</p>	
<div style="border: 1px solid #0056b3; padding: 5px; background-color: #e6f2ff;"> <p><i>However, Despite Clear Gender Differences...</i></p> <p>~80% Of Pain Research is Conducted on Men</p> </div>	 <p>Gender-Specific Considerations Psychosocial differences and constructed gender-norms surrounding pain influence how pain is received and ultimately how pain is treated</p>	