



## PAIN MANAGEMENT STRATEGIES IN EMERGENCY CARE SETTINGS: THE ROLE OF NURSE SPECIALIST

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### Abstract:

**Background:** Pain management in the emergency department is a critical aspect of patient care, with pain being a common complaint among patients referred to hospitals. Despite its importance, inadequate pain control is a prevalent issue in emergency settings, impacting patient satisfaction and outcomes. Specialist nurses play a crucial role in assessing, treating, and monitoring pain in emergency care settings, utilizing evidence-based protocols and collaborating with healthcare teams. However, nurse specialists face challenges such as time constraints, resource limitations, communication barriers, and patient resistance.

**Objective:** This review aims to identify current pain management strategies employed by nurse specialists in emergency care settings, assess the impact of these techniques, explore challenges and barriers faced by nurse specialists, and examine the consequences of inadequate pain management. By addressing these objectives, the study seeks to enhance understanding of pain management practices in emergency settings and improve patient care outcomes.

**Conclusion:** Effective pain management is essential in the emergency department to enhance patient satisfaction and outcomes. Specialist nurses play a crucial role in this process, utilizing evidence-based protocols and collaborating with healthcare teams. Despite facing challenges such as time constraints and resource limitations, nurse specialists strive to provide high-quality care. Various methods of pain control, including pharmacological and non-pharmacological interventions, are utilized to ensure timely and effective pain relief. Implementing standardized protocols and guidelines for pain management in emergency settings is crucial to address inadequately treated pain and improve patient care.

**Keywords:** nurse, pain control, emergency department, Barriers.

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**Introduction:**

Pain represents a significant concern for individuals seeking medical attention at hospitals, with nearly 80% of referrals to the emergency department (ED) attributed to pain-related issues [1]. Effective pain management within the ED is considered a key quality-of-care metric and serves as a valuable gauge for evaluating the standard of care provided in this setting [2]. Various factors, including but not limited to race, age, gender, communication abilities, underlying health conditions, physician awareness, and concerns about potential complications, can hinder the adequate control of pain in patients. It is crucial that pain relief measures are promptly initiated without undue delay while awaiting diagnostic test results and other clinical investigations. The cornerstone of pain alleviation typically involves the administration of systemic analgesic medications such as opioids or nonsteroidal anti-inflammatory drugs (NSAIDs) [3].

When devising a treatment plan, healthcare providers must select and administer medications in a manner that not only effectively addresses the patient's pain across different modalities but also minimizes adverse effects and avoids potential drug interactions [4]. Research indicates that patients whose pain is effectively managed during their ED visit tend to report higher overall satisfaction with the care they receive at the hospital [5]. Despite this, there is a widespread consensus regarding the suboptimal management of pain in the ED [6]. Therefore, equipping emergency medicine physicians (EMPs) with a diverse array of analgesic strategies and pain management techniques enables them to provide tailored pain relief interventions based on individual patient needs, thereby enhancing the quality of care delivered [7].

Current guidelines emphasize the importance of ensuring proper and efficient pain management for all pain-afflicted patients, starting from the prehospital emergency care phase. The primary goal is to alleviate pain, preserve functionality, and minimize adverse effects [8]. It is recommended to utilize standardized protocols in the emergency setting, with each protocol encompassing initial pain assessment using validated tools to gauge pain intensity, pharmacological and non-pharmacological interventions with clear indications and contraindications, regular monitoring and reassessment of pain post-treatment, and seamless communication of relevant patient information to hospital staff [9]. Additionally, patients should receive additional

doses of analgesics if pain persists. The criteria for administering analgesic therapy are contingent on various factors, primarily the operational structure of the emergency care service [10].

**Objectives:**

The main objectives of this review are:

1. To identify current pain management strategies utilized in emergency care settings by nurse specialists.
2. To assess the impact of different pain management techniques employed by nurse specialists in emergency care settings.
3. To explore the challenges and barriers faced by nurse specialists in implementing pain management strategies in emergency care settings.
4. To examine the consequences of inadequate pain management

**Pain Assessment:**

Pain assessment is a complicated process, as using an instrument with a one-dimensional measurement scale may not accurately reflect the multidimensional nature of pain. In any case, in order to assess the effectiveness of treatment and the possible need to administer further medication, it is useful to be able to refer back to a measurement system without changing the scale chosen for the initial pain assessment. The scientific community agrees on the use of one-dimensional measurement scales that relate pain intensity to the type of treatment to be applied. In the pediatric pain trauma, the recommendations allow for the use of the FLACC [10], Wong-Baker [11] and NRS [12] algometric scales, based on the age of the child, as indicated by literature, and the administration of analgesics, based on protocols shared by the team, if the score obtained is  $>4$ . The assessment of a patient with acute trauma pain can be complex due to the patient's age, emotional state (anxiety, psychomotor discomfort) and/or change in state of consciousness, for example, in relation to the state of consciousness or the patient's age. For example, in a patient with trauma, pain is classified as mild to moderate if the NRS score is 1 to 3 and the patient responds to paracetamol and/or NSAIDs; moderate to severe if the NSR score is between 4 and 6 and the patient responds to mild opioids and/or NSAIDs and paracetamol; and moderate to severe if the score is between 7 and 10 and the pain responds to treatment with strong opioids and NSAIDs [13].

**The role of specialist nursing in pain management in emergency department:**

Pain management within the emergency department is a pivotal component of patient care, with the prompt and efficient alleviation of pain holding significant sway over patient well-being and recovery outcomes. Within this realm, specialist nurses wield a vital influence, leveraging their advanced expertise and competencies to evaluate, treat, and oversee patients grappling with pain [14]. A cornerstone of the approach adopted by specialist nurses in pain management involves the utilization of evidence-based protocols and guidelines, serving as a linchpin for ensuring the delivery of consistent, top-tier care. These protocols encompass a spectrum of interventions, ranging from pharmacological measures like analgesics and nerve blocks to non-pharmacological strategies such as relaxation techniques and distraction therapy.

Collaboration stands as a hallmark of the specialist nurses' modus operandi, as they closely coordinate with various healthcare stakeholders—including physicians, pharmacists, and physical therapists—to craft personalized pain management blueprints tailored to each individual patient's needs. Furthermore, these specialized nurses take on the mantle of educators and supporters for patients and their families, aiding them in comprehending the nature of their pain and emphasizing the significance of adhering to the prescribed treatment regimen [15]. By embracing a multidisciplinary approach and integrating cutting-edge research findings and best practices, specialist nurses stationed in the emergency department wield the capacity to efficaciously navigate pain management terrain, thereby fostering enhanced patient outcomes.

Nevertheless, an intriguing observation surfaces in the domain of nurses' attitudes towards pain, hinting at the sway of severity-of-illness bias on their perspectives. This bias manifests in the diverse and comprehensive evaluations of pain articulated through the triage color code, indicating that nurses may view pain as a mere symptom, with the intensity of pain perceived in direct correlation to the gravity of an underlying ailment. Consequently, there exists a potential risk wherein emergency department nurses might overlook or inadequately address a pain syndrome that appears disconnected from a severe or critical disease [16].

**Challenges and barriers faced by nurse specialists in implementing pain management strategies in emergency care settings:**

Nurse specialists are pivotal in delivering top-notch patient care, especially within emergency

care environments where swift and efficient pain management is paramount. Nonetheless, these healthcare professionals encounter various obstacles and impediments in executing pain management protocols in such fast-paced and high-pressure scenarios. A primary hurdle they face is the constrained timeframe available for patient assessment and treatment, given the typically overcrowded and understaffed nature of emergency departments. This results in delays in implementing pain management measures, as noted in references [17].

Moreover, the unpredictable nature of emergency cases necessitates that nurse specialists swiftly adjust their pain management approaches to cater to the diverse needs of patients with varying pain levels and medical conditions. Another significant challenge in the implementation of pain management strategies in emergency care settings is the dearth of resources and support. This deficiency encompasses insufficient access to pain management medications, equipment, and tools, as well as limited opportunities for continuous training and education in pain management techniques.

The absence of essential resources and support may hinder nurse specialists in effectively assessing and treating pain in emergency patients, potentially leading to suboptimal outcomes and patient dissatisfaction. Additionally, communication barriers can act as a hindrance to the successful execution of pain management strategies in emergency care settings. Effective communication among healthcare team members, patients, and their families is crucial for ensuring accurate pain assessment and management. However, within the chaotic emergency department environment, breakdowns in communication can transpire, resulting in delays in pain relief and misunderstandings concerning treatment plans, as highlighted in reference [18].

Nurse specialists must adeptly navigate these communication challenges by advocating for their patients' pain management needs and collaborating with other healthcare professionals to ensure cohesive care delivery. Furthermore, nurse specialists may encounter resistance from patients who are hesitant to accept pain management interventions due to concerns about addiction, side effects, or distrust of healthcare providers. To surmount these barriers, nurse specialists must educate patients on the significance of pain management, address their apprehensions and preferences, and involve them in shared decision-

making regarding their treatment. Establishing trust and rapport with patients is vital for fostering adherence to pain management strategies and enhancing patient outcomes in the emergency care setting, as outlined in reference [19].

#### **Methods of pain control in emergency care settings:**

Morphine, as a parenteral agent, is a commonly used opioid in hospital settings for managing moderate to severe pain in patients with extremity trauma [20]. The recommended approach for acute pain management in the Emergency Department (ED) involves initiating treatment with bolus morphine followed by gradual titration to achieve the desired level of analgesia. Despite its effectiveness, morphine is associated with adverse effects such as sedation, nausea, hypothermia, and respiratory depression [21]. Due to these side effects, many Emergency Medical Professionals (EMPs) tend to avoid administering high initial doses of morphine, with some studies suggesting that even 0.1 mg/kg of intravenous morphine may not provide adequate pain relief [22].

Research indicates that morphine can be safely used at standard doses over an extended period in patients without severe complications. However, to prevent abuse, the preparation and administration of morphine in hospitals are strictly controlled, which may lead to delays in its use. A study by Elsner et al. [23] found that while subcutaneous morphine may take up to 24 minutes longer to achieve optimal analgesia compared to intravenous (IV) administration, there is no significant difference in the analgesic efficacy between the two methods. The advantage of subcutaneous administration lies in its avoidance of the need for IV access, making it a viable option in certain scenarios [24].

Regional nerve blocks are a specialized anesthetic technique that interrupts nerve signals to alleviate or prevent pain. In elderly patients with femoral bone fractures, nerve block analgesia significantly reduces the requirement for opioid medications. This technique, particularly when performed under ultrasound guidance, is straightforward and associated with fewer complications. In settings such as combat or disaster scenarios, where minimal medication usage is preferred, regional nerve blocks can be particularly advantageous [25].

Distal radial fractures are the most common upper limb fractures in both children and adults. Pain and patient discomfort during manual reduction can hinder the success of the procedure. Various drug

strategies, such as short-acting benzodiazepines or propofol with or without opioids, are used to alleviate pain during reduction. However, each of these medications has its own set of side effects and limitations. Recent controlled trials have demonstrated that direct injection of analgesics into the fracture site, known as a hematoma block, is a rapid and relatively uncomplicated method for achieving analgesia during manual reduction of distal radial fractures. Hematoma blocks have been shown to be highly effective, entail fewer risks compared to systemic analgesics, offer greater cost-effectiveness, and reduce the time required to achieve analgesia for interventions [27].

#### **Consequences of inadequately treated pain:**

The enduring effects of inadequately treated acute pain are believed to be manifold and severe, both in the short and long run. These repercussions encompass an elevated susceptibility to infections, reduced comfort levels, and the potential progression to chronic pain syndrome, a profoundly debilitating condition with noteworthy economic and social ramifications [28]. Inadequate pain management not only impacts the individual patient but also extends to the overall emergency department (ED) environment, as healthcare providers are tasked with managing increasingly intense pain levels, leading to resource implications. There seems to be an unfulfilled requirement for the safe, prompt, and efficient management of trauma-related pain in the emergency setting. Nevertheless, obstacles hinder the effective pain management in the ED, primarily stemming from the absence of comprehensive national guidelines for pain management, delayed or omitted pain evaluations, hesitancy towards opioid analgesia usage, and delays in the administration of analgesics [29].

#### **Conclusion:**

In conclusion, effective pain management in the emergency department is crucial for improving patient outcomes and satisfaction with hospital services. Specialist nurses play a vital role in assessing, treating, and monitoring patients' pain, utilizing evidence-based protocols and working collaboratively with healthcare teams. However, nurse specialists face challenges such as time constraints, resource limitations, communication barriers, and patient resistance. Various methods of pain control, including pharmacological and non-pharmacological interventions, are utilized in emergency care settings to ensure timely and effective pain relief. Inadequately treated pain can lead to serious consequences, emphasizing the importance of implementing standardized



protocols and guidelines for pain management in emergency settings to enhance patient care and outcomes.

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