

Medication Administration: Attitudes Toward Single Checking

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November 28, 2025

RECOMMENDED CITATION

mohammed loot (2025). *Medication Administration: Attitudes Toward Single Checking*. Psychepedia. Retrieved from <https://psychepedia.arabpsychology.com/?p=26519>

Introduction to Medication Administration Safety Protocols

The administration of medication constitutes one of the most critical and high-risk activities undertaken by healthcare professionals, particularly nurses. Medication errors, ranging from minor deviations to severe adverse events, represent a significant threat to patient safety globally and place immense strain on healthcare systems. Historically, safety protocols have emphasized redundancy, most notably the implementation of the **double-checking mechanism**. This long-established practice mandates that two licensed practitioners independently verify the medication order, preparation, and patient identity prior to administration. The underlying philosophical assumption is that a second pair of eyes will intercept errors missed during the initial assessment, thereby providing a robust safeguard against potential harm. However, contemporary pressures related to increasing patient complexity, staffing shortages, and demands for enhanced efficiency have forced critical re-evaluation of these traditional safeguards, leading to intense discussions regarding the viability and efficacy of moving toward **single checking** protocols in specific, low-risk contexts. This shift necessitates a deep understanding of the professional attitudes, organizational culture, and psychological factors that influence compliance and acceptance among nursing staff.

The debate surrounding single checking is complex, pitting the imperative of efficiency against the non-negotiable requirement of patient safety. Proponents of single checking often cite the substantial time saved, arguing that the resources currently allocated to mandatory double checks could be better utilized in direct patient care, especially during periods of high acuity or staff scarcity. Conversely, opponents emphasize that medication administration is inherently prone to human error--a phenomenon recognized widely in cognitive psychology and human factors engineering--and that eliminating a crucial safety net introduces unacceptable levels of risk. Therefore, any move away from established double-checking norms requires not only robust technological support, such as smart pumps and electronic health records (EHRs), but also a comprehensive assessment of the attitudes held by the frontline staff who must execute these protocols under pressure.

Understanding the attitudes of nurses toward single checking is paramount because successful implementation hinges entirely upon their adherence and belief in the protocol's safety. Attitudes are multidimensional, encompassing cognitive beliefs about the effectiveness of the process, affective responses related to stress and professional responsibility, and behavioral intentions regarding compliance. These attitudes are often shaped by personal experiences with medication errors, the perceived safety culture of the institution, and the clarity of organizational policy. A positive attitude toward single checking typically correlates with a perception that the process is secure, efficient, and supported by adequate technological safeguards, whereas resistance often stems from the deeply ingrained professional belief that double checking is a fundamental ethical duty designed to protect both the patient and the practitioner from catastrophic outcomes.

The Rationale for Single Checking: Efficiency vs. Error Prevention

The primary organizational rationale driving the consideration of single checking protocols is the urgent need to optimize workflow efficiency within resource-constrained healthcare environments. Double checking, while effective in error interception, is recognized as a time-intensive process that frequently interrupts workflow, particularly in high-volume areas such as acute care units or operating theatres. Studies have quantified the time spent waiting for a second nurse to become available for verification, noting that these delays can accumulate significantly over a shift, contributing to overall nursing fatigue and reducing the time available for other essential patient care activities. The argument posits that if the risk profile of certain medications--such as low-dose oral drugs or routine subcutaneous injections--is sufficiently low, the mandatory double check imposes a bureaucratic burden disproportionate to the actual safety benefit derived, especially when advanced technological controls are already in place to mitigate common errors.

Furthermore, the effectiveness of the double check itself has been subject to critical scrutiny, leading to the concept of 'normalization of deviance' or 'ritualistic checking.' When a task is performed repeatedly without incident, the second checker may rely heavily on the integrity of the first checker's work, resulting in a superficial or perfunctory verification process rather than a true, independent cognitive check. This phenomenon, often referred to as 'dependent checking,' undermines the core safety function of the redundancy mechanism, turning it into a mandatory but ineffective ritual. Therefore, advocates for single checking argue that eliminating the requirement for low-risk medications allows staff to focus their limited cognitive resources and time on the high-risk medications and complex procedures where a true, independent double check provides maximum benefit, thus improving the overall safety culture by making safety mechanisms meaningful rather than rote.

However, the counter-argument maintains that efficiency gains must never supersede patient safety, asserting that the potential cost of even a single, severe medication error far outweighs the cumulative time savings. Critics of single checking emphasize that even routine medications can cause catastrophic harm if administered incorrectly, especially in vulnerable populations such as pediatrics or geriatrics. They point out that the human factors contributing to medication errors--distraction, fatigue, and heavy workload--are precisely the elements that double checking is designed to counteract. The move to single checking is thus perceived by many as an organizational cost-cutting measure disguised as a workflow improvement, leading to inherent resistance rooted in professional ethics. The central tension remains unresolved: how to accurately define and delineate the boundary between medications that genuinely require the fail-safe of redundancy and those where technological safeguards provide equivalent protection.

Historical Context and Evolution of Double Checking

The tradition of double checking medication administration did not arise arbitrarily; it evolved from a necessity recognized during periods when medication delivery systems were less standardized and lacked the technological support available today. Prior to the widespread adoption of unit dose systems and computerized physician order entry (CPOE), medication preparation often involved complex calculations, manual transcriptions, and the potential for confusion between look-alike/sound-alike drugs. In this environment, the independent verification by a second professional served as the primary, and often only, defense against calculation errors, transcription mistakes, and incorrect drug selection. This practice became deeply embedded in professional nursing training and institutional policy, establishing the double check as a foundational element of ethical and safe practice.

The historical reliance on human redundancy persisted even as technology advanced, largely due to the recognition that technology, while mitigating certain risks, introduces new potential failure points, such as data entry errors or system malfunctions. For decades, the standard of care across most Western healthcare systems mandated double checking for virtually all high-alert medications (e.g., insulin, heparin, narcotics, chemotherapy). This long-standing cultural expectation has cultivated an attitude among experienced nurses that equates double checking directly with professional competence and diligence. Challenging this established norm requires overcoming decades of professional socialization, where the absence of a double check is often internalized as a breach of duty rather than a permissible procedural variation.

The contemporary shift toward questioning the universal applicability of double checking is primarily fueled by the integration of advanced safety technologies, particularly **Bar Code Medication Administration (BCMA)** systems and EHR-integrated smart pumps. BCMA systems verify the five rights of medication administration (right patient, drug, dose, route, time) electronically at the bedside, theoretically providing an audit trail and real-time error interception that mimics or exceeds the reliability of a human double check for certain steps. This technological advancement provides the necessary organizational and legal justification for piloting single checking protocols. However, the attitudes of healthcare providers are often lagging behind technological capability, with many nurses expressing skepticism that technology can fully replace the nuanced cognitive judgment of a human colleague, especially concerning complex patient situations or drugs requiring advanced clinical assessment prior to administration.

Nurses' Perceived Benefits and Drawbacks of Single Checking

Nurses who express positive attitudes toward single checking protocols typically highlight the substantial improvement in workflow and the resultant reduction in workplace frustration. The most frequently cited benefit is the elimination of the 'waiting game'--the unproductive time spent

searching for a colleague to perform the secondary check, especially during peak administration times or night shifts when staffing is lean. This perceived efficiency gain translates directly into more time available for direct patient interaction, teaching, or addressing acute needs. Furthermore, some nurses feel that single checking, particularly when paired with robust BCMA systems, instills a greater sense of individual accountability and ownership over the entire medication process, reducing the potential for diffusion of responsibility that can occur when two individuals share the task.

Conversely, the perceived drawbacks of single checking are profound and often centered on heightened psychological stress and fear of litigation or professional consequences. Many nurses report that the elimination of the double check removes their primary defense mechanism against error. They perceive the secondary checker not merely as an organizational requirement but as a professional safety net, providing emotional reassurance that a critical task has been verified. The removal of this safety net leads to increased anxiety, especially when administering high-alert medications. Furthermore, there is a pervasive fear that in the event of an error, even if technology failed, the sole responsibility would fall upon the single administrator, potentially leading to professional disciplinary action or loss of licensure.

Attitudes are also heavily influenced by the specific context of medication administration. Nurses working in areas where medications are highly standardized and administered via BCMA systems (e.g., medical-surgical units) tend to exhibit more favorable attitudes toward single checking low-risk medications. In contrast, those in highly complex environments, such as pediatric intensive care or oncology, where doses are often customized, calculations are frequent, and drugs are highly toxic, overwhelmingly maintain a negative attitude toward single checking. They view the inherent complexity of their work as fundamentally incompatible with protocols designed for efficiency, asserting that human redundancy is non-negotiable when dealing with narrow therapeutic indices and vulnerable patient populations.

Psychological Factors Influencing Compliance and Trust

The transition to single checking engages several critical psychological factors, most notably the concepts of trust and risk perception. Compliance with new protocols is directly correlated with the degree of trust nurses place in both the technological systems and the organizational leadership. If nurses perceive that the technology (e.g., BCMA) is unreliable, prone to glitches, or bypassable, their trust diminishes, leading to high resistance and potential non-compliance with single checking mandates. Similarly, if nurses believe the organizational push for single checking is primarily motivated by financial savings rather than genuine safety enhancement, their trust in management erodes, fostering cynicism and resistance to change.

Risk perception is another dominant psychological determinant. Nurses operate under a strong

ethical framework emphasizing non-maleficence. When presented with single checking, they must recalibrate their inherent perception of risk. For many, the mental model dictates that two checks are safer than one, regardless of the technology involved. Organizational efforts to implement single checking must therefore focus intensively on cognitive restructuring, providing compelling evidence, data, and training that demonstrates how the technological safeguards provide an equivalent or superior level of protection compared to the fallible human double check. Without this psychological buy-in, compliance becomes superficial, potentially leading to workarounds or covert continuation of the double-checking practice, neither of which supports a consistent safety culture.

Furthermore, the concept of **professional identity** plays a crucial role. For many veteran nurses, meticulous verification procedures are central to their self-definition as competent professionals. The introduction of single checking can be interpreted as devaluing their professional judgment or suggesting that technology is superior to their clinical expertise. Successful implementation requires framing single checking not as an abandonment of safety, but as an evolution of safety practice--a shift from reliance on human redundancy to reliance on verified, high-fidelity technological systems, thereby allowing nurses to dedicate their cognitive resources to complex clinical decision-making rather than routine verification tasks.

Organizational and Systemic Challenges in Implementation

Implementing single checking protocols requires overcoming significant organizational inertia and systemic challenges that extend beyond individual attitudes. A major hurdle is the need for absolute consistency and reliability of the foundational safety infrastructure. Single checking relies heavily on the guaranteed functionality of BCMA, smart pumps, and accurate electronic documentation. Any failure in these systems--whether due to hardware malfunction, poor network connectivity, or inadequate training--immediately compromises the safety justification for single checking, forcing a rapid reversion to manual double checking and eroding nurse confidence in the new protocol. Investment in robust, redundant technological support is therefore a prerequisite, not an optional feature.

Policy alignment and legal clarity also present systemic challenges. Healthcare organizations must ensure that their protocols are compliant with relevant regulatory and accreditation standards, which often lag behind technological advancements. Furthermore, organizations must clearly define which medications and contexts are appropriate for single checking versus those that remain mandatory double check procedures (e.g., high-alert medications, complex infusions). Ambiguity in policy creates confusion, increases cognitive load, and encourages inconsistent practice across different units. The legal implications regarding liability in the event of an error under a single-check protocol must also be transparently addressed to alleviate staff fears and ensure institutional support for the administering nurse.

Finally, effective change management is essential. Implementing single checking cannot be a top-down mandate; it requires collaborative development involving frontline nursing staff, pharmacy, and risk management. This involves comprehensive pilot testing, detailed feedback loops, and iterative refinement of the protocols based on real-world experience. Organizations that successfully transition to single checking typically invest heavily in specialized training that emphasizes the 'why' behind the change--demonstrating how technology replaces the human check--rather than simply providing procedural instruction. Failure to manage the change process effectively results in high levels of resistance, low adoption rates, and the potential for staff to revert to familiar, albeit inefficient, double-checking practices.

Impact on Professional Accountability and Team Dynamics

The shift to single checking fundamentally alters the locus of accountability during medication administration. Under the double-checking model, accountability is shared, though the administering nurse retains ultimate responsibility. In a single-checking environment, the nurse administering the medication assumes full, explicit accountability for all verification steps. While this increased ownership can foster meticulousness, it also places immense pressure on the individual, potentially increasing stress and burnout, especially if the nurse perceives a lack of adequate support or resource allocation from the organization.

This change in accountability also influences team dynamics. The traditional double check fostered mandatory peer interaction, creating informal opportunities for communication, consultation, and collaborative problem-solving regarding complex medication orders. While often inefficient, this interaction contributed to team cohesion and a shared safety culture. Single checking, conversely, promotes a more isolated process of administration. Healthcare leaders must proactively implement alternative mechanisms to ensure peer consultation remains accessible and encouraged, particularly for high-risk situations, preventing the erosion of the collaborative safety environment.

Moreover, attitudes toward single checking reflect differing views on professional autonomy. Some nurses view the removal of the double-check mandate as a positive step toward greater autonomy, allowing them to utilize their professional judgment to determine the appropriate level of verification required for a given situation, provided technological safeguards are active. Others view it as a diminution of professional rigor, interpreting the reliance on technology as a constraint on their clinical decision-making capacity. Organizational communication must clearly articulate how professional judgment remains central to the single-checking process, ensuring that nurses understand they are empowered to seek a second check whenever clinical uncertainty or high risk warrants it, even if the protocol does not mandate it.

Strategies for Mitigating Risk in Single Checking Environments

To ensure positive attitudes and safe implementation of single checking, healthcare systems must adopt comprehensive risk mitigation strategies that address both human factors and system reliability. The primary strategy involves the rigorous enforcement of **Technology-Enhanced Verification**. This means ensuring that BCMA systems are utilized 100% of the time for single-checked medications and that audit trails are regularly reviewed to identify potential circumvention or system failures. Furthermore, the selection of medications for single checking must be highly restrictive, focusing exclusively on medications deemed low-risk and administered via standardized protocols.

A second crucial strategy involves the implementation of **Independent Double Check Triggers**. While the organization may permit single checking generally, mandatory double checking must remain in place for all high-alert medications, complex calculations, and specific patient populations (e.g., pediatric or renal failure dosing). These triggers must be hardwired into the CPOE and BCMA systems so that the requirement for a second check cannot be bypassed electronically. This hybrid approach respects the efficiency goals while maintaining the highest level of human redundancy where the risk of error is most significant.

Finally, robust organizational support and a non-punitive culture are essential for mitigating the psychological risks associated with single checking. This includes providing clear pathways for nurses to report system failures, near misses, and perceived risks without fear of reprisal. Furthermore, comprehensive simulation training that specifically addresses error management in a single-checking environment helps build confidence and competence. By demonstrating unwavering commitment to safety through both technology investment and cultural support, organizations can foster positive attitudes, encouraging nurses to view single checking not as a risk factor, but as a component of an advanced, efficient, and ultimately safer medication administration system.