

INNOVATIVE GLOBAL NURSING PRACTICE AND
EDUCATION THROUGH RESEARCH AND
EVIDENCE-BASED PRACTICE

29th International Nursing
Research CONGRESS



“ PROMOTING DVT PREVENTION THROUGH PROPER HYDRATION: ESSENTIAL TO SAFELY ADMINISTERING LOW MOLECULAR HEPARIN IN ANTICOAGULATION THERAPY ”

A META-ANALYSIS SYSTEMATIC REVIEW OF THE EVIDENCE

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NURSING PROBLEM

- Renal toxicity may occur in anticoagulation therapy with LMWH as a result of LMWH plasma bioaccumulation in hyperosmolar conditions.
- **Nursing Alert:** LMWH usage maybe limited with renal insufficiency and or with volume deficit patients when intravascular fluids are not quantitatively sufficient.
- **Nursing Alert :** Nurses must be proficient when understanding the complex management of debilitated patient conditions with hyperosmolar concerns and when helping to establish a therapeutic anticoagulant milieu in clinical volume depletion

PURPOSE OF THE SYSTEMATIC ANALYSIS

- To review the evidence ascertaining the importance of nurses clearly understanding the benchmarks of therapeutic anticoagulation therapy specifically with LMWH, preventing potential renal complications in challenging hyperosmolar patient conditions.

Discussion: “Promoting DVT Prevention through Proper Hydration: Essential to Safely Administering Low Molecular Heparin in Anticoagulation Therapy”

- Nurses must consistently focus on benchmarking adequate fluid management when promoting DVT prevention, enhancing patient tolerance in fluid volume challenging situations, despite the patients condition if possible.
- Careful observations and expert consultation as soon as possible is warranted in resuscitative conditions, (Flynn, Rauen, Watson, & Will 2014).
- When administering LMWH to hyperosmolar patient populations in debilitated and or acute renal conditions, LMWH bioaccumulation may worsen the patients renal condition and may negatively affect overall renal function, (Schmid, Fischer & Wuillemin, 2009).
- Clinical benchmarks such as urine consistency, output and concentration, S & S of dehydration, low blood pressures, tachycardia must be monitored to prevent the potential for deteriorating renal conditions.
- Patients must drink plenty fluids inclusive of meal times at all cost if possible and or immediate intravenous fluid challenges is best practice with nursing caution in debilitating conditions such as shock, cardiac dysfunction and or traumatic multi system deterioration.

- Nurses must concentrate on understanding adequate fluid management when promoting DVT prevention thus enhancing LMWH patient tolerance. **(This is most important in patients with fluid volume deficit.)**
- In addition to the activated partial thromboplastin time, emphasis is given to making certain that patients drink daily plenty fluids inclusive of meal times, IV therapy as fluid challenges when permitted in NPO patient populations, monitoring closely the consistency of urine for output and concentration compared with signs and symptoms pointing out to dehydration such as lowered blood pressures and tachycardia.
- The blood serum osmolality should be considered a most effective guide to fluid balance with a benchmark serum osmolality 270–300 milliosmoles per kilogram (mOsm/kg) of water when assessing for a fluid balance guide in the prevention of a hyperosmolar condition as a most correlative volume deficit laboratory indicator.
- Early transition to oral hydration helps to enhance the conditions for healing and recovery.
- Improving fluid management decreases complications, decrease in length of stay (LOS), and enhanced patient outcomes,

(Makaryus, Miller, and Gan,2018)

IMPLICATIONS FOR NURSING PRACTICE

- The blood serum osmolality should be considered a most effective guide to fluid balance with a benchmark serum osmolality 270–300 milliosmoles per kilogram (mOsm/kg) of water when assessing for a fluid balance guide in the prevention of a hyperosmolar condition as a most correlative volume deficit laboratory indicator.
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Promoting DVT Prevention through Proper Hydration: Essential to Safely Administering Low Molecular Heparin in Anticoagulation RX

Conclusion:

Nurses must consider at all levels shifting the focus from hydration for performance, towards hydration for health outcomes.

Urine output is easily measured, and can take into account differences in daily physical activity, climate, dietary solute load, and other factors that influence daily water needs.

Today, targets have been proposed for urine osmolality, specific gravity, and color that may be used by researchers, clinicians, and individuals as simple indicators of optimal hydration.

(Perrier, 2017)

Comprehensive nursing care strategies that promote best practices are essential when managing difficult patient scenarios in order to build a culture of safety towards quality nursing care and positive patient outcomes.

Promoting DVT Prevention through Proper Hydration: Essential to Safely Administering Low Molecular Heparin in Anticoagulation RX

Finally:

“Promoting best practices through education and clinical competency based initiatives are essential when managing difficult patient scenarios.”

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“Promoting DVT Prevention through Proper Hydration: Essential to Safely Administering Low Molecular Heparin in Anticoagulation Therapy ”

Lessons Learned: Urine output is easily measured, and can take into account differences in daily physical activity, climate, dietary solute load, and other factors that influence daily water needs.

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Comprehensive nursing care strategies that promote best practices are essential when managing difficult patient scenarios in order to build a culture of safety towards quality nursing care and positive patient outcomes.

Take Away: Nurses must consider at all levels shifting the focus from hydration for performance, towards hydration for health outcomes.

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