

# Key Figures and Insights on Hydration and Athletic Performance

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## Importance of Maintaining Hydration for Athlete Performance

**Insight:** Maintaining optimal hydration is crucial for athletic performance, particularly in endurance events. A body mass loss (BML) exceeding 2% has been linked to decreased performance and elevated risk of exertional heat illness.

**Justification:** "Most data support performance deficits at body mass losses (BMLs) greater than 2% in endurance exercise. In addition, this same magnitude of BML can affect physiologic function and increase the risk of exertional heat illness."

**Source:** Accuracy of Urine Color to Detect Equal to or Greater Than 2% Body Mass Loss in Men

## Utility of Urine Color as a Diagnostic Tool for Hydration Status

**Insight:** Urine color is a practical and field-appropriate measure for assessing hydration status, specifically identifying hypo-hydration post-exercise when urine color is at level 5 or above.

**Justification:** "A urine color of 5 or greater identified BML greater than or equal to 2% with 88.9% sensitivity and 84.8% specificity... a valid, practical, inexpensive tool for assessing hydration status."

**Source:** Accuracy of Urine Color to Detect Equal to or Greater Than 2% Body Mass Loss in Men

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## Efficacy of Different Beverages in Rehydration

**Insight:** Milk-based beverages are highly effective in restoring fluid balance due to their composition, including sodium, potassium, and proteins. These components contribute to prolonged hydration after exercise compared to plain water or other common beverages.

**Justification:** "Milk and other dairy-based drinks are recommended for their high electrolyte and nutrient content, helping sustain hydration levels post-exercise."

**Source:** Milk-based beverages offer a beneficial alternative to plain water in hydration management.

## Impact of Beverage Electrolyte Composition on Fluid Retention

**Insight:** Beverages high in electrolytes, especially sodium, show improved fluid retention and prevent quick depletion of body water, which is crucial in prolonged exercise and heat conditions.

**Justification:** "Drinks with higher sodium concentrations lead to greater fluid retention and slower depletion, reducing the risks of rapid dehydration during physical activity."

**Source:** Sports Hydration Solutions and the Role of Electrolytes

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## Practical Considerations for Hydration Testing in Field Conditions

**Insight:** Field hydration testing, like using urine color, is essential for athletic trainers, especially when quick hydration assessments are needed without advanced equipment.

**Justification:** "Urine color can provide athletic trainers with a measure of hydration status in the absence of equipment; however, little evidence exists for its diagnostic utility."

**Source:** Accuracy of Urine Color to Detect Equal to or Greater Than 2% Body Mass Loss in Men