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DIETARY MODIFICATION AND ADEQUATE HYDRATION IN THE PREVENTION OF RECURRENT KIDNEY STONES

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Keywords: kidney stones; recurrence; hydration; dietary calcium; salt restriction; prevention.

Relevance of the study. Preventing another stone episode is an essential component of care after stone passage or removal. Dietary and fluid-related factors are modifiable, making them important targets for long-term management. Current guidelines emphasize adequate urine output and individualized nutritional advice rather than indiscriminate food restriction. A concise synthesis of the supporting evidence is relevant to clinical practice because preventive counseling must connect measurable goals with patients' everyday habits.

Aim of the study. To summarize evidence on the contribution of hydration and dietary modification to the prevention of recurrent kidney stones in adults.

Materials and methods. A narrative review was based on an international clinical guideline, two randomized trials, and a prospective observational study selected for direct relevance to fluid intake, dietary factors, and stone recurrence. Study populations, interventions or exposures, and clinical outcomes were compared descriptively.

Results. In a five-year randomized trial involving 199 patients after a first episode of idiopathic calcium stone disease, recurrence occurred in 12 of 99 participants advised to increase water intake and in 27 of 100 controls ($p = 0.008$). The mean interval to recurrence was 38.7 versus 25.1 months, respectively. These findings support sustained hydration as a preventive measure, although individual benefit depends on baseline risk and adherence

Discussion. The European Association of Urology describes general preventive measures that include a usual fluid intake of 2.5–3.0 liters daily, dietary calcium of 1,000–1,200 mg daily, and salt restriction to 4–5 g daily. Intake should be adjusted to fluid losses, comorbidities, and the individual urinary risk profile. A high fluid target should not be applied automatically to patients at risk of volume overload. The evidence is limited by differences in study design and population; notably, the key dietary trial included only men with hypercalciuria. Clinical recommendations should therefore combine general measures with stone analysis and appropriate metabolic assessment.

Conclusion. Adequate hydration and a diet maintaining normal calcium while reducing salt are central to preventing recurrent kidney stones. Individualized counseling should translate these measures into achievable daily goals and reassess adherence over time. Dietary advice is a foundation of preventive care, with additional management determined by stone composition, metabolic findings, and clinical risk.

References

1. European Association of Urology. EAU Guidelines on Urolithiasis. Metabolic Evaluation and Recurrence Prevention [Electronic resource]. — 2026. — URL: https://uroweb.org/guidelines/urolithiasis/chapter/metabolic-evaluation-and-recurrence-prevention (accessed: 28.09.2026).

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2. Urinary volume, water and recurrences in idiopathic calcium nephrolithiasis: a 5-year randomized prospective study / L. Borghi, T. Meschi, F. Amato [et al.] // The Journal of Urology. — 1996. — Vol. 155, no. 3. — P. 839–843. — DOI: 10.1016/S0022-5347(01)66321-3.

3. Comparison of two diets for the prevention of recurrent stones in idiopathic hypercalciuria / L. Borghi, T. Schianchi, T. Meschi [et al.] // The New England Journal of Medicine. — 2002. — Vol. 346, no. 2. — P. 77–84. — DOI: 10.1056/NEJMoa010369.

4. Dietary risk factors for incident and recurrent symptomatic kidney stones / A. Chewcharat, C. Thongprayoon, L. E. Vaughan [et al.] // Mayo Clinic Proceedings. — 2022. — Vol. 97, no. 8. — P. 1437–1448. — DOI: 10.1016/j.mayocp.2022.04.016.

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