

# Letter from the Industrial Physician



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### It's still hot out there. Those with weak kidneys should be careful !

Even in September, hot days continue. While the heat is tough even for healthy people, it's especially hard for those with underlying conditions. Particular caution is needed for people with weakened kidney function. Fluid loss through sweating (dehydration) reduces renal blood flow, increasing the risk of acute kidney injury. Moreover, older adults and people with diabetes often fail to notice dehydration, making them more prone to worsening kidney function. Furthermore, certain blood pressure medications (diuretics, ACE inhibitors/ARBs, etc.) and fever/pain relievers (NSAIDs, etc.) can more easily cause prerenal renal failure (a type of kidney failure where blood flow to the kidneys is reduced due to dehydration) during summer dehydration. Those regularly taking such medications should be cautious. In fact, some research papers indicate that the incidence of acute kidney injury increases during the summer months (references).

**Average eGFR Guidelines by Age Group (mL/min/1.73m<sup>2</sup>)**

20s	around 100 – 110
30s	90 – 100
40s	80 – 90
50s	70 – 85
60s	65 – 75
70s	55 – 65
80s	45 – 55

Ref: Japanese Society of Nephrology "CKD Clinical Practice Guidelines"

By the way, the test used to evaluate kidney function in health checkups is called eGFR (see last July's issue). If you have results from a health checkup or clinic blood test, please check your eGFR value. Since the assessment varies by age, please refer to the table on the left. With aging, eGFR naturally decreases as part of the aging process, which is not necessarily pathological. However, values below 60 meet the criteria for chronic kidney disease (CKD), so evaluation should include checking for proteinuria and assessing comorbidities like blood pressure and diabetes.

Therefore, individuals with kidney problems need to take even greater precautions than healthy people to prevent heat-related health hazards. Beyond managing body temperature and environment through hydration and air conditioning, dietary adjustments are crucial. Specifically: ① Reduce salt intake (under 6g/day) to prevent worsening hypertension or heart failure; ② Avoid excessive protein intake as it burdens the kidneys—aim for balanced meals; ③ Follow your doctor's guidance on vegetable and fruit consumption, as kidney disease can cause elevated potassium (K) levels.

Not just this year, but disaster-level heat is expected to continue in the future. If kidney function declines every summer, living a long and healthy life may become difficult. Let's take good care of our kidneys.

(Reference) Lombardi *et al.*, Seasonality of acute kidney injury in a tertiary hospital academic center: an observational cohort study, *Environmental Health* (2021) 20:8