

## Preserving kidney function: A closer look at analgesic-associated kidney disease.

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### Introduction

The kidneys, those unassuming bean-shaped organs nestled within our bodies, play a critical role in maintaining overall health. Responsible for filtering waste, regulating electrolyte balance, and producing hormones that influence blood pressure and red blood cell production, these remarkable organs are often taken for granted – until something goes wrong. One such concern that has gained prominence in recent years is Analgesic-Associated Kidney Disease (AAKD), a condition that underscores the importance of responsible pain management. Analgesics, commonly known as pain relievers, are a mainstay in our quest for relief from discomfort and pain. They encompass a broad range of medications, including nonsteroidal anti-inflammatory drugs (NSAIDs) like ibuprofen, aspirin, and acetaminophen. While these medications can provide much-needed relief, they are not without potential consequences, particularly when used over extended periods or in excessive doses [1].

AAKD refers to kidney damage or dysfunction that can occur as a result of prolonged or high-dose use of certain analgesic medications. It falls under the broader category of drug-induced kidney diseases, emphasizing the delicate balance between the benefits of pain relief and the potential harm to our vital renal function. The mechanisms underlying AAKD are multifaceted and can vary depending on the specific analgesic used. NSAIDs, for example, work by inhibiting enzymes called cyclooxygenases (COX), which are involved in inflammation and pain signaling. While this action can alleviate discomfort, it can also disrupt the intricate regulatory pathways within the kidneys. One of the primary concerns with NSAIDs is their impact on renal blood flow. By inhibiting COX enzymes, these medications can interfere with the dilation of blood vessels in the kidneys, potentially reducing blood flow and impairing the kidneys' ability to filter waste effectively. This can lead to a cascade of events, including fluid retention, electrolyte imbalances, and even acute kidney injury [2].

Certain individuals may be more susceptible to AAKD than others. Those with preexisting kidney conditions, such as chronic kidney disease (CKD), are at heightened risk due to the kidneys' reduced ability to compensate for the disruptions caused by analgesics. Age, dehydration, and the use of multiple medications can also contribute to an increased risk of AAKD. It's worth noting that not all analgesics carry the same risk.

Acetaminophen, for instance, is generally considered safer for the kidneys when used as directed. However, exceeding recommended dosages or combining medications containing acetaminophen can still lead to kidney problems [3].

Before starting any pain management regimen, consult a healthcare provider who can assess your medical history and recommend suitable options.

**Dosage and Duration:** Stick to recommended dosages and avoid prolonged use of NSAIDs or other analgesics without medical supervision.

**Hydration:** Stay well-hydrated to support proper kidney function and help flush out potentially harmful substances.

**Regular Monitoring:** Individuals with existing kidney conditions should have their renal function monitored regularly to detect any changes early.

**Alternative Approaches:** Explore alternative pain management strategies, such as physical therapy, relaxation techniques, or non-pharmacological interventions [4].

Preserving kidney function is a vital aspect of maintaining overall health and well-being. While analgesics can provide relief from pain, they also carry the potential for kidney-related complications, emphasizing the need for responsible and informed pain management. By understanding the risks, consulting healthcare professionals, and adopting proactive measures, we can strike a balance between pain relief and kidney health, ensuring that our remarkable renal allies continue to serve us well for years to come [5].

### References

1. Brennan JM, Thomas L, Cohen DJ, et al. Transcatheter versus surgical aortic valve replacement: Propensity-matched comparison. *J Am Coll Cardiol.* 2017;70(4):439-50.
2. Muneretto C, Alfieri O, Cesana BM, et al. A comparison of conventional surgery, transcatheter aortic valve replacement, and sutureless valves in “real-world” patients with aortic stenosis and intermediate-to high-risk profile. *J Thorac Cardiovasc Surg.* 2015;150(6):1570-9.
3. Popma JJ, Deeb GM, Yakubov SJ, et al. Transcatheter aortic-valve replacement with a self-expanding valve in low-risk patients. *N Engl J Med.* 2019;380(18):1706-15.

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4. Goel SS, Ige M, Tuzcu EM, et al. Severe aortic stenosis and coronary artery disease-implications for management in the transcatheter aortic valve replacement era: A comprehensive review. *J Am Coll Cardiol*. 2013;62(1):1-0.
5. Koifman E, Kiramijyan S, Negi SI, et al. Body mass index association with survival in severe aortic stenosis patients undergoing transcatheter aortic valve replacement. *Catheter Cardiovasc Interv*. 2016;88(1):118-24.