Shaping Tomorrow's Nephrology: Insight-Driven Kidney Care
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# Dyslipidemia Management in CKD: Latest Guidelines

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The metabolism of major lipoproteins is profoundly altered in patients with chronic kidney disease (CKD), resulting in a distinctive lipid profile characterized primarily by elevated serum triglycerides (TG) and reduced HDL cholesterol (HDL-C) levels. These alterations are driven by defective molecular mechanisms, including reduced activity of lipoprotein lipase (LPL) and hepatic lipase, as well as impaired reverse cholesterol transport mediated by downregulated ABCA1 and ABCG1 in macrophages. According to longitudinal data from the KNOW-CKD study, these dyslipidemic patterns—specifically elevated LDL-C, non-HDL-C, and TG—are strongly associated with a higher risk of adverse cardiovascular (CV) outcomes and rapid CKD progression. High TG-rich lipoproteins are particularly detrimental as they upregulate inflammation and oxidative stress, leading to foam cell formation within the arterial wall. Current management strategies follow evidence-based guidelines from KDIGO, ESC, and KSoLA, which recommend statins or statin/ezetimibe combinations as the first-line therapy to improve cardiovascular prognosis in non-dialysis CKD patients. While statin therapy is highly effective in non-dialysis stages, evidence from trials like 4D and AURORA suggests that initiating statins in dialysis-dependent patients does not significantly reduce major CV events, although continuing existing therapy is generally advised. Beyond traditional therapies, the FOURIER trial's post-hoc analysis has established that PCSK9 inhibitors, such as evolocumab, consistently lower LDL-C and reduce relative cardiovascular risk across CKD stages 2 to 3b, with even greater absolute risk reductions observed in more advanced CKD. The role of fibrates remains complex; while they may reduce major coronary events and mortality, they are associated with a higher risk of incident CKD and a transient decline in eGFR. A landmark update for 2026 is the Protection against Incidences of Serious Cardiovascular Events

Study (PISCES), which demonstrated that daily supplementation with 4g of n−3 fatty acids significantly reduces serious cardiovascular events in maintenance hemodialysis patients. This benefit is likely due to the cardioprotective properties of EPA and DHA, which stabilize cardiomyocyte membranes and reduce arrhythmic stimuli in a population often deficient in these essential fatty acids. Ultimately, while pharmacologic interventions have proven successful in mitigating cardiovascular risk, their impact on halting renal progression remains a critical area for future investigation.

**Keywords:** Chronic Kidney Disease, Dyslipidemia, Triglycerides, Cardiovascular Outcomes, Omega-3 Fatty Acids