American Heart Association.

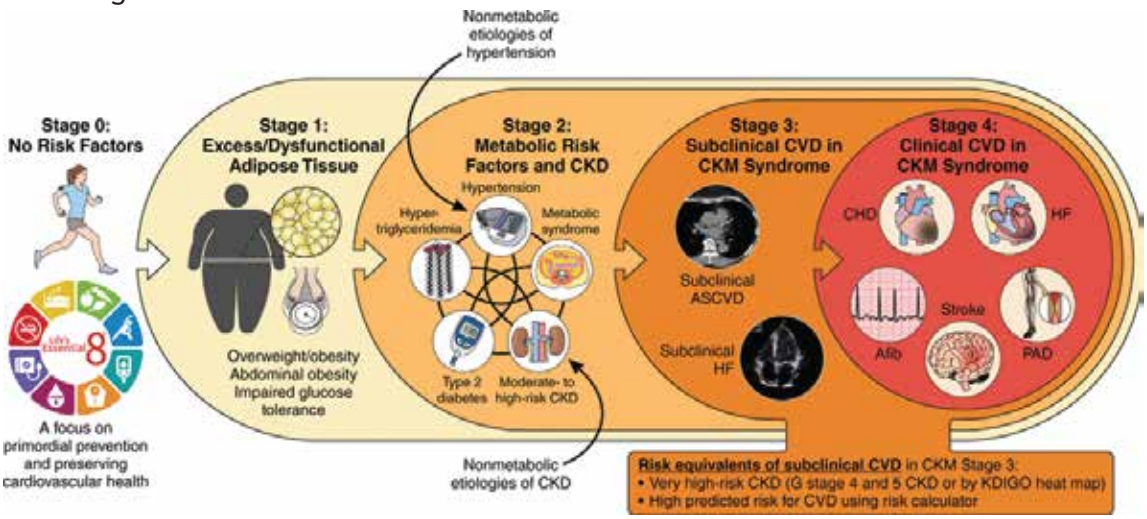
Top 10 Highlights: 2023 Cardiovascular-Kidney-Metabolic Health Presidential Advisory

1. Defining CKM Syndrome

Cardiovascular-kidney-metabolic (CKM) syndrome is defined as a health disorder attributable to connections among obesity, diabetes, chronic kidney disease (CKD), and cardiovascular disease (CVD), including heart failure, atrial fibrillation, coronary heart disease, stroke, and peripheral artery disease. CKM syndrome includes those at risk for CVD and those with existing CVD.

2. Staging Construct

This advisory provides a CKM staging construct that reflects the pathophysiology, spectrum of risk, and opportunities for prevention and care optimization within CKM syndrome: stage 0, no CKM risk factors; stage 1, excess or dysfunctional adiposity; stage 2, metabolic risk factors (hypertriglyceridemia, hypertension, diabetes, metabolic syndrome) or moderate- to high-risk chronic kidney disease; stage 3, subclinical CVD in CKM syndrome or risk equivalents (high predicted CVD risk or very high-risk CKD); and stage 4, clinical CVD in CKM syndrome. In addition, risk-enhancing factors influence the likelihood of progression along CKM stages.



3. Screening for Risk Factors

Screening for CKM risk factors is suggested across the life course to enhance approaches to prevention and management in both youth and adults, with the frequency and intensity of suggested screening linked to the CKM stage.

4. Predicting Outcomes

New approaches are described for predicting outcomes related to CKM syndrome, including assessing risk for both atherosclerotic CVD and heart failure and incorporating risk assessment starting at 30 years of age, which is reflected in a new CKM risk calculator.

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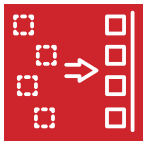

5. Reducing Care Fragmentation with Volume-Based Strategies

Value- and volume-based strategies can reduce care fragmentation and improve interdisciplinary care for patients with multiple comorbid conditions within CKM syndrome and are outlined in this document.

6. Social Determinants of Health Screening

Given the excess burden of CKM syndrome among individuals with adverse social determinants of health (SDOH) and the impact of SDOH on CKM syndrome management and outcomes, systematic SDOH screening is emphasized, as well as incorporating SDOH into risk prediction and addressing SDOH as part of clinical care model for patients with CKM syndrome.

7. Lifestyle Modification & Weight Loss

Excess or dysfunctional adiposity should be addressed through lifestyle modification and weight loss to prevent progression and to facilitate regression along CKM stages.

8. Optimizing CVD Risk Reduction For Patients with Diabetes

A framework for optimizing CVD risk reduction and selecting cardioprotective antihyperglycemic agents (eg, sodium-glucose transport protein 2 inhibitors, glucagon-like peptide 1 receptor agonists) among patients with diabetes is provided, with sodium-glucose transport protein 2 inhibitors prioritized for those with CKD, existing heart failure, or high heart failure risk, and glucagon-like peptide 1 receptor agonist prioritized for those with uncontrolled hyperglycemia (hemoglobin A1c ≥9%), high insulin doses, or severe obesity (body mass index ≥35 kg/m2). Combined use of sodium-glucose transport protein 2 inhibitors and glucagon-like peptide 1 receptor agonists should be considered for those with multiple CKM risk factors in the setting of CVD or high predicted CVD risk.

9. Measuring Urine Albumin-Creatinine Ratio

Clinicians are encouraged to measure urine albumin-creatinine ratio in addition to estimated glomerular filtration rate in those with CKD, diabetes, hypertension, and metabolic syndrome for fully characterizing CKD and CVD risk (particularly heart failure). Guidance is also provided for the appropriate use of kidney-protective therapies with resultant cardiovascular benefit (eg, angiotensin-converting enzyme inhibitor/angiotensin II receptor blockers, sodium-glucose transport protein 2 inhibitors, finerenone).

10. Optimizing CKM Health in the Population

A framework is provided for optimizing CKM health in the population, including enhancing education on CKM health; investing in research related to CKM syndrome; systematically assessing and addressing SDOH; improving obesity care and the availability of integrated teams to support lifestyle change and weight management; increasing equitable access to pharmacotherapies; supporting value- and volume-based interdisciplinary care models; applying proven implementation strategies within and across health centers; and developing partnerships to support the achievement of ideal cardiovascular health across diverse communities.