



Nomenclature for Kidney Function and Disease

**A KDIGO Consensus Conference on Nomenclature
June 27-29, 2019 • Amsterdam, Netherlands**

Scope of Work for Public Review

Concept

KDIGO has led the global kidney community in the past by developing guidelines promulgating definitions for terms such as CKD, AKI, CKD-MBD, as well as the staging system to classify severity of CKD and AKI and the subsequent risk categories for CKD (“heat map”). To further guideline implementation, KDIGO now will undertake an effort to revise and refine the nomenclature the community uses in describing kidney function and disease. While some of the terms have been in use for decades, it is timely to revisit them now in order to establish a consistent nomenclature that will facilitate communication across nephrology and intersecting disciplines, and ultimately help to improve outcomes. Such nomenclature can influence communication at all levels, leading to improved understanding of how patients feel about their disease, foster greater appreciation of the public health burden of kidney disease, and enable better recognition of knowledge gaps for future research. The overall goal is to define standard nomenclature in publication of scientific articles. The remit for this conference is to work with researchers, clinicians, journal editors/managers, patients, and thought leaders to create a patient-centered and precise glossary of terms related to kidney function and disease to promote greater uniformity across medical practice, research, and public health.

The KDIGO Consensus Conference Nomenclature for Kidney Function and Disease will bring these stakeholders together for 1½ days to discuss issues for harmonizing the nomenclature and help pave a way to the adoption of a new glossary of terms related to kidney function and disease for use by medical journals. Since journal editors and managers have a critical role in implementing terminologies, we will seek broad representation of major nephrology journals, several leading non-specialty journals, and non-nephrology specialty journals that publish important contributions to nephrology. Prior to the conference, we will also conduct focus groups with patients to better understand their attitudes toward nomenclature and distribute a survey to attendees to assess the ongoing nomenclature used in scientific publications. The role of more extensive “phenotyping,” including the use of “omics” data to enhance present classification, may be further addressed/explored at this meeting.

The full Conference Report will be submitted for publication, with an Executive Summary to be offered to every journal represented at the conference. The glossary will be made available to the research community, government regulators, and industry. Over time it is hoped that the conference deliverable will lead to a new era of common understanding about the conditions faced by millions of kidney disease patients. It may be anticipated that improvement in communication through patient-centered and precise language will also improve processes related to research, clinical practice, and public health.

Potential Areas of Discussion

The following general and specific topics may be the focus of discussion at the conference:

1. The use of the term ‘kidney’ rather than ‘renal’ to describe kidney function and kidney disease. In English the terms ‘renal’ and ‘kidney’ are still used interchangeably, resulting in different acronyms describing the same condition or status (e.g., ESRD/ESKD or RRT/KRT). It is more likely that patients and the public would understand the terms incorporating the more familiar noun kidney, rather than the less familiar adjective renal, which is derived from Latin and is labeled in some dictionaries as technical. While writing guides may generally favor choosing an appropriate adjective

over using a noun as a modifier, there are high-profile precedents for the use of kidney as a modifier, such as AKI, CKD, and NIDDK (National Institute of Diabetes, Digestive and Kidney Disease).

2. The avoidance of the term 'end-stage.' Although rooted in United States (US) law, the term is not patient sensitive, may connote a stigma, and may discourage advocacy. In the US, ESRD (ESKD) is a synonym for receipt of kidney replacement therapy (KRT). However, KRT is a treatment rather than a disease. The term 'kidney failure,' which is defined as $GFR < 15 \text{ ml/min/1.73 m}^2$ or treatment by dialysis, is as comprehensive as ESRD/ESKD without suffering from its limitations.
3. Improved characterization of the full spectrum of kidney failure. While all patients with kidney failure have $GFR < 15 \text{ ml/min/1.73 m}^2$ or are undergoing treatment by dialysis, the severity of symptoms varies greatly. We lack terms to describe the severity of symptoms and findings, and yet they are indications for initiating KRT. There are also no common patient-reported outcome measures to describe severity. Kidney failure can thus be classified as acute or chronic, depending on its duration, and possibly could be further classified according to patient-reported outcomes (symptoms).
4. The use of more descriptive terms for treatments for kidney failure. Many patients with kidney failure do not undergo KRT. The terms treated vs. untreated have been used to describe this, but this is not consistent with the idea that supportive care is indeed treatment. Furthermore, in some cases patients choose supportive care rather than KRT, and in other cases, they do not have a choice because of lack of insurance or lack of availability. Finally, some patients may not be under the care of a physician at all.
5. The avoidance of CKD as a synonym for $GFR < 60 \text{ ml/min/1.73 m}^2$. CKD includes markers of kidney damage or $GFR < 60 \text{ ml/min/1.73 m}^2$ for 3 months, so ascertainment of GFR without ascertainment of markers of kidney damage is insufficient for classification of CKD status when $GFR > 60 \text{ ml/min/1.73 m}^2$. If chronicity is not documented, it can be inferred on the

basis of corroborative clinical data or presumed in the absence of clinical data to the contrary.

6. The avoidance of AKI as a synonym for AKD. AKD refers to kidney diseases and disorders with duration less than 3 months, whereas AKI refers to kidney diseases and disorders with onset within 1 week.
7. The use of CKD GFR and ACR categories and AKI stages to describe disease severity rather than employing ill-defined terms such as mild, moderate, severe, or advanced.
8. The use of the terms 'GFR categories and albuminuria categories' rather than CKD stages when describing level of GFR and albuminuria in populations without CKD or without ascertainment of both GFR and albuminuria.
9. The use of the term 'risk categories' to describe combinations of G and A categories from the KDIGO heat map.
10. The use of specific terms, such as GFR, tubular secretion, tubular reabsorption, albuminuria, proteinuria, etc., rather than general terms, such as kidney function, damage, or injury, when possible.
11. When referring to decreased or decreasing GFR, avoid the use of different, poorly defined terms such as: impaired kidney function, renal insufficiency, renal dysfunction, renal impairment, worsening kidney function, or kidney function decline.
12. When referring to GFR, use descriptive abbreviations (mGFR for measured GFR and eGFR for estimated GFR, with specific notation based on the endogenous filtration markers used, e.g., $eGFR_{cr}$, $eGFR_{cys}$, and $eGFR_{cr-cys}$). Additional detail can be given in the methods. For mGFR, the methods should describe the exogenous filtration marker (e.g., inulin, iothalamate, iohexol) and clearance method (urinary clearance, plasma clearance). For eGFR, the methods should describe the estimating equation used (CKD-EPI, MDRD Study).

13. Avoid referring to albuminuria or proteinuria as decreased kidney function. Albuminuria and proteinuria are markers of kidney damage, rather than measures of kidney function.
14. When referring to albuminuria or proteinuria, avoid the terms “microalbuminuria” and “macroalbuminuria/clinical proteinuria.” Use the terms “moderately elevated” or “severely elevated” instead.
15. When referring to albuminuria and proteinuria, use descriptive abbreviations, such as urine albumin or protein excretion rates (AER and PER) or urine albumin-creatinine or protein-creatinine concentration ratios (ACR and PCR).
16. It is recognized that journal style will dictate when and how to abbreviate the terms serum and urine for use with concentrations, excretion rates, or ratios (for other example, Scr and UACR).

The following general and specific topics were considered to be beyond the scope for discussion at the conference: dialysis, dialysis adequacy, performance measures, and outcome metrics; dialysis vascular and peritoneal access procedures, performance measures, and outcome metrics; transplant procedures, performance measures, and outcome metrics; classification of causes of kidney disease; kidney anatomy and cellular and molecular organization.

Tentative Details and Plans

The final details of the conference will be determined by its Co-Chairs in collaboration with KDIGO leadership. The attendees are expected to comprise current or former journal editors/managers, frequent contributors to the medical literature, and managing editors of nephrology and general medical journals. The conference will begin with a series of presentations on current nomenclature practice across various journals from nephrology and intersecting specialties. This will be followed by consensus-building discussions to develop the appropriate terminologies. The deliberations will be driven by global science and a commitment to reach consensus that will resonate to the benefit of patients and be of value to the global kidney community.