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# Nomenclature in nephrology: preserving ‘renal’ and ‘nephro’ in the glossary of kidney health and disease

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## Abstract

A recently published nomenclature by a “Kidney Disease Improving Global Outcomes” (KDIGO) Consensus Conference suggested that the word “kidney” should be used in medical writings instead of “renal” or “nephro” when referring to kidney disease and kidney health. Whereas the decade-old move to use “kidney” more frequently should be supported when communicating with the public-at-large, such as the World Kidney Day, or in English speaking countries in communications with patients, care-partners, and non-medical persons, our point of view is that “renal” or “nephro” should not be removed from scientific and technical writings. Instead, the terms can coexist and be used in their relevant contexts. Cardiologists use “heart” and “cardio” as appropriate such as “heart failure” and “cardiac care units” and have not replaced “cardiovascular” with “heartvessel”, for instance. Likewise, in nephrology, we consider that “chronic kidney disease” and “continuous renal replacement therapy” should coexist. We suggest that in scientific writings and technical communications, the words “renal” and “nephro” and their derivatives are more appropriate and should be freely used without any pressure by medical journals to compel patients, care-partners, healthcare providers, researchers and other stakeholders to change their selected words and terminologies. We call to embrace the terms “kidney”, “renal” and “nephro” as they are used in different contexts and ask that scientific and medical journals not impose terminology restrictions for kidney disease and kidney health. The choice should be at the discretion of the authors, in the different contexts including in scientific journals.

**Keywords** Nomenclature · Renal · Kidney · Nephron · Scientific language

## What is in the name: renal, nephro and kidney?

*“What’s in a name? That which we call a rose by any other name would smell as sweet”*

This is a frequently quoted line from Act II, Scene II, of *Romeo and Juliet* by William Shakespeare, circa 1600, in which Juliet muses about her forbidden love of Romeo Montague. His labeled categorization as a Montague is the proximate barrier to her desired outcome; re-label him and the impediment is removed, and happiness is fast restored.

According to the Merriam-Webster dictionary, the word “renal” is an *adjective* and means: “of, relating to, involving, or located in the region of the kidneys” and its roots are French or late Latin [1]. The word “nephro-” also means “of a kidney; relating to the kidneys” and is derived from the Greek word nephros meaning kidney. A recent article in *Kidney International*, [2] which was published concurrently in two dozen medical journals (see [Appendix](#)) suggested that the word “kidney” should be used in scientific writings instead of “renal” or “nephro” when referring to kidney disease and kidney health. This initiative has been spearheaded by “Kidney Disease Improving Global Outcomes” (KDIGO), an independent entity described on its website [www.KDIGO.org](http://www.KDIGO.org) as “the global non-profit organization developing and implementing evidence-based clinical practice guidelines in kidney disease” and which has contributed

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substantially to developing and expanding nephrology guidelines over the past decade. KDIGO has published the proceedings of a nomenclature consensus conference with the stated goal of standardizing and refining kidney-related nomenclature used in English-language scientific articles and developing a glossary that can be used by journals [2]. They recommended that the term ‘kidney’ should be used preferentially when describing kidney disease and kidney function.

The stated evidence to support KDIGO’s nomenclature recommendation is derived from the qualitative synthesis of thematic analysis from the focus groups of 54 adults with chronic kidney disease (CKD) and 13 caregivers from the United States, United Kingdom, and Australia, who participated in 10 focus groups, initiated and funded by KDIGO, to discuss terms and concepts used for kidney health [2]. The KDIGO nomenclature consensus paper states that medical journals adopting these recommendations will require education of editorial staff as well as proactive communication with authors. Further, this decision will necessitate implementation in clinical practice, research, public health, professional societies, industry, and patient advocacy organizations [2]. Several nephrology journals appear to have already implemented these recommendations. As an example, since early 2020, one of the Nephrology journals has stipulated the following to authors of the submitted manuscripts: ‘As per journal style, avoid the term “renal” and use “kidney” instead’ (noted in 2020 by several authors of this commentary).

### Should we standardize nephrology nomenclature?

Examining the etymological origin of these descriptive terms, the unqualified success of the creation and promotion of the term “Chronic Kidney Disease,” including its definition and classifications, should be acknowledged [3]. It is beyond the scope of this article to discuss why in science and medicine, the day-to-day terminology has remained predominantly Greek and Latin. Kidney is an English word, and approximately 20% of the inhabitants of the world speak English as their mother tongue. The first use of the term “renal” is mentioned circa 1656, meaning related to kidney, as defined above [1]. In Latin, *rēnēs* means kidneys or loins. In ancient mythology, kidneys, assumed to be hidden inside the torso or loins, were thought to be the seat of one’s emotions and affections [4]. The “reins,” are the mind, rather than the heart, and some prose use both

“reins” and “heart”. Renal is an adjective, whereas kidney is a noun. The two words are not tautologies. The word, *renal*, is derived from Latin (*ren*). The words for kidney in French (*rein*), Italian (*rene*) and Spanish (*rinon*) are very similar to *renal*.

Whereas the important initiative of KDIGO to standardize nomenclature is laudable, we are not aware of any compulsory nomenclature by patients and professionals of other medical disciplines such as cardiologists and heart patient groups or heart foundations, such as the American Heart Association, to instruct medical journals to replace cardiac with heart. Similarly, *Cardiac Care Units* (CCU) are not referred to as Heart Care Units in cardiology glossaries or by patient groups. Authors of scientific papers do not require the conversion of *cardiovascular* event to “heart-vessel events” in their writings. Cardiologists and their patients appear to comfortably interchange the terms “congestive heart failure” and “cardiovascular disease” without requiring heart or cardio to replace one or another. Medical and cardiology journals do not force researchers and clinicians to replace hypertension with “high blood pressure,” diabetes with “sugar disease,” nor osteoarthritis with “degenerative joint disease.” It is not clear why these nomenclature restrictions are to be implemented by medical journals for nephrology (see Table 1).

### Do renal and nephro cause obscurity and imprecision?

Based on KDIGO’s writings, the pressing urgency to replace renal and nephro with kidney is to resolve the obscurity and imprecision of such terms [2]. There are two kidneys and their supporting structures that work in concert to form a renal system. Thus, “kidney” and “renal” are not directly interchangeable to medical personnel or patients. Indeed, using KDIGO’s argument, the terms chronic kidney disease and acute kidney injury are not entirely English, and perhaps they should be replaced by *Persisting Kidney Disease* (PKD) and *Sudden Kidney Injury* (SKI), because the word “chronic” is Greek, derived from *khronos* and the word “acute” is Latin, derived *acutus*, respectively. Similarly contradicting the reasoning by KDIGO, there appears to be no urgency in replacing other foreign terms in the field such as *dialysis*, which is a Greek-Latin word, with the well-established term “blood purification,” although it is less likely that “peritoneal dialysis” be replaced in medical writings with “belly wall membrane blood purification,” for instance.

**Table 1** Examples of medical disciplines with selected terminologies in English vs. Greek or Latin

Medical discipline	Greek or Latin terms	English terms	Additional comments
Nephrology	Renal, Nephro	Kidney to replace renal and nephro according to KDIGO, see text	It is not clear why dialysis should not be replaced with English words such as blood purification <sup>a</sup>
Cardiology	Cardiac Care Unit, Cardiovascular, Cardiorenal Syndrome	No known recommendation such as “Heart Care Unit”, Heart-Vessel events, Heart-Kidney Syndrome	In Cardiology heart and cardiac are used as appropriate without any compulsory glossary by AHA, ACC, or other guideline bodies
Endocrinology	Diabetes	“Sugar Disease” is rarely used	No known compulsory glossary for scientific writing
Pulmonary	Respiratory, Pulmonary, Cardiopulmonary,	The word lung is used as a choice such as COLD vs COPD. Lung failure can be used as a choice	No known compulsory glossary for scientific writing
Rheumatology	Osteoarthritis	Degenerative Joint Disease (DJD) can be used as a choice	No known compulsory glossary for scientific writing
Infectious Disease	Sepsis, Pneumonia	Blood infection and chest infection can be used as a choice	No known compulsory glossary for scientific writing
Urology	Prostate, Urine, Renal cell carcinoma	Pre-standing gland, <sup>b</sup> Pee, Kidney cell cancer, are rarely used	No known compulsory glossary for scientific writing
Dermatology	Dermatitis	Skin inflammation <sup>a</sup> is occasionally used	No known compulsory glossary for scientific writing
Gastroenterology	Gastric, Intestinal, Colonic, Hepatorenal	Belly or stomach <sup>a</sup> , short bowel, large bowel, can be used as a choice	No known compulsory glossary for scientific writing
Oncology & Hematology	Tumor, Leukemia	Cancerous gland, blood cancer <sup>a</sup> are sometimes used	No known compulsory glossary for scientific writing
Surgery	Post-operative, Peritoneum	After-surgery, belly wall membrane, may be used	No known compulsory glossary for scientific writing
Ophthalmology	Ophthalmic, Blepharitis, Retinopathy	Eye, eyelids infection, disorder of the back of the eye	No known compulsory glossary for scientific writing
Neurology	Neuron, Meninges	Nerve <sup>a</sup> cell, brain skin, can be used as a choice	No known compulsory glossary for scientific writing
Psychiatry	Psychosis, Cerebro	Mental disease, brain, used as appropriate	No known compulsory glossary for scientific writing
Nutrition	Diet, Cachexia	Food, wasting (weight loss) can be used as a choice	No known compulsory glossary for scientific writing

AHA American Heart Association, ACC American College of Cardiology, COLD Chronic obstructive lung disease, COPD chronic obstructive pulmonary disease

<sup>a</sup>Purification is Latin, from the word “purus” that is pure. Infection is a Latin word, derived from “infectio” meaning infection, contagion. Inflammation is a Latin word meaning setting on fire. Stomach is a Greek word “stomachos” deriving from the ancient (and modern) Greek word “stoma”, meaning mouth. Cancer is also a Latin word but derived from the ancient Greek “karkinos”. Nerve is derived from the Latin “nervus” and the Greek “neuron”. Mental is also Latin word, and “ment” means mind

<sup>b</sup>Prostate in German is *Vorsteherdrüse*, which means pre-standing gland,

In Nephrology, there are established anatomic structures and functions, as well as historical and statutory peculiarities, that could be maintained without causing much harm or obscurities, such as renal artery (an important anatomic entity), renal blood flow (an important physiologic concept), cardiorenal committee (under the Food and Drug Administration), cardiorenal syndrome (which is rarely, if ever, stated as “heart-kidney syndrome”), the United States Renal Data System (a congressionally mandated reporting operation

under the National Institutes of Health), etc. There are professional societies using the terms renal or nephro in their designations such as the United Kingdom Renal Association, the American Society of Nephrology, the International Society of Nephrology, the Renal Physicians Association, the Council of Renal Nutrition (under the National Kidney Foundation), the Renal Nutrition Group of the United Kingdom, etc. It is not clear whether nephrologists are the only “kidney doctors” or whether urologists should also refer

to themselves as kidney doctors. Indeed, the word urology means the science of urine or urinary tract; hence, it could be argued that urologists should be referred to as urine (“pee” in English) or urinary tract doctors.

In terms of using any terminology for physician specialists, the discretion and the free choice of patients and physicians should be respected. It should be the equal choice of nephrologists and urologists to call themselves kidney doctors. Patients with kidney disease should have their preferences supported however they decide [5]. Patients can talk about their ‘oncologists’ or describe them as a ‘cancer specialists’ as they prefer. Many patients use the words cardiologist or gynecologist without difficulty, while some may prefer heart doctor or women’s doctor, and there is no prescribed glossary for patients and professionals in these fields to dictate how to communicate or write research papers. The terminology or language is a means of communication. The words selected should facilitate communication. It is not necessary that the same terminology be used in different communities. For example, the terms, “renal” and “nephro” may best promote communication among professionals, while the term, “kidney” may be a better way of communicating with patients and the public. There is an appropriate time and place for all of these terms. Mandating the use of a specific term, especially by a scientific journal as a requirement to publish an article, will cause some terms to lose their relevance.

In International Classification of Disease (ICD), in 73 locations, the terms “renal” or “nephron” have appeared, while the word, “kidney,” including chronic kidney disease and its stages, are also included. There are currently 32 peer-reviewed journals related to kidney disease, which have the terms, “Nephro” or “Renal” in their titles, all registered with appropriate scientific and biomedical bodies and jurisdiction. There are patient support groups under such designations as *Renal Support*. Many nephrology societies have “nephro” or “renal” in their names; many departments and divisions or sections related to kidney diseases are labeled “Nephro” and “Renal”, e.g., The Department of Renal Medicine. A large number of post graduate degrees and professional designations given by authoritative or statutory bodies include renal and nephro, such as for dietitians. Among professionals and for scientific and health policy writings, “renal” and “nephro” are appropriate means of communication, while for most public and patient advocacy, kidney may be a better choice.

## Is replacing renal with kidney patient-centered?

Several nephrology journals which have adopted KDIGO’s restrictive glossary, have done so under the guiding principle of “patient centeredness.” This is indeed a noble cause; however, mandating this change confounds scientific precisions and disrupts professional designations and communications. Further, mandating the use of a single term may negatively impact the important plight of kidney advocacy groups that deserve enhanced government support to maximize the likelihood that kidney patients and their care-partners will live long and prosper with kidney disease. In the south of Europe, in central and South America, and in central and West Africa, many inhabitants speak Latin- or Ancient Greek-derived languages including Italian, French, Spanish, Greek, Romanian, etc., and removing Latin or Greek terms from medical nomenclature, including nephrology, may make kidney disease education and awareness poorer in these areas. Instead of forcing authors to revise their scientific articles to remove “renal” as a strict prerequisite to publish papers, the renal and kidney community at large including patients, care-partners, health care providers, researchers and other stakeholders in English speaking countries should partner with the rest of the world to increase the richness and suppleness of the English language, and not impoverish it by forcing restricted terminology upon a diverse world. Our diversity is our strength.

We agree that effective communications with patients and their care-partners and the ability to promote education and awareness about kidney health and kidney disease among lay people are important reasons to ensure appropriate nomenclature. However, when some biomedical journals require the compulsory and involuntary replacement of “renal” and “nephro” and their derivatives across the noun-adjective composites so useful to medical terminology, and instead insist on the single, nonspecific noun “kidney” they may inadvertently undermine the linguistic complexities required for effective patient care delivery. These restrictive policies are in sharp contradistinction to scientific and academic freedom and are inconsistent with the needed level of precision to accurately express scientific, technical and statutory intricacies in renal medicine. Further, the indiscriminate use of nouns, such as kidney, can foster fragmentation and move us away from the wholeness and integration we seek that systems and verbs promote as part of a collaborative approach to renal education and training of specialists and ensuring patients understand that status and plan for treating their kidney disease [6].

The emphasis on improving communication between patient and health care system, the basis for the KDIGO initiative to change the language, is admirable; however, KDIGO's suggestion to substitute all the other terms used when referring to the kidney system with the only term "kidney" may result in impoverishing not only the vocabulary, but also the possibility of declining the problems in the various and different meanings, such as the definition of different renal-related clinical conditions, of renal-linked health services, and of scientific or patients' associations, among others. We underestimate our patients' abilities to comprehend, and we limit our abilities to communicate amongst ourselves by simply changing everything to "kidney". While changing everything to kidney is do-able, it will not produce the ideal outcome that has been proposed. It would be similar to saying that only the word "red" can be used when the words "vermilion", "rose", "scarlet", and others make our language come alive and actually convey something slightly different than the term "red."

## Conclusions

The authors of this commentary support the important suggestions of the focus groups of patients and care-partners that the obscurity and imprecision of terms related to CKD can be unduly distressing and traumatizing for patients and can impair decision-making and self-management [7]. Indeed, using the same logic, it can be argued that the term CKD is imprecise and has led to traumatizing many people, whose eGFR values have been flagged, by an automated laboratory computer, below 60 ml/min/1.73 m<sup>2</sup>, who may or may not have CKD [8]. We also welcome this conclusion of patient focus groups, that consistent and meaningful patient-centered terminology may improve patient autonomy, satisfaction, and outcomes [7]. But we believe that this can be achieved even more effectively by balanced patient-centered approaches, such as those employed by cardiologists and endocrinologists as well as many other specialists, which

have been implemented by working directly with patient groups and without a guideline body requiring a terminology change.

We support the decade-old move to use "kidney" more frequently than "renal" or "nephron," especially in communications with patients and non-medical persons [9]. In English-speaking countries, when communicating with patients and with the public-at-large, e.g., when writing papers for the public or when speaking to lay people, we should use the word "kidney." As an example, the *World Kidney Day* [10] (and not World Nephrology day or World Renal Day) has emerged as an important platform to increase education and awareness about kidney disease and kidney health throughout the world. However, "renal" or "nephro" should not be vehemently removed from scientific and technical writings, and medical journals should not force authors to do so as a requirement for publication. Instead, the terms can coexist and be used in their relevant contexts. The *choice* should be at the discretion of the authors and not guided, let alone dictated, by the journal. In the United Kingdom, the contemporary origin of the English language, many patients appear to feel content to use both kidney and renal interchangeably and well understand the term, "renal units" (see Box 1 with patient quotes).

The goal of our commentary is not to question the intentions of KDIGO colleagues who, like all of us, appear to advocate for the more frequent use of kidney when communicating with patients and lay persons, but to *inspire a dialogue that hunts for a middle ground, and sensible compromises that show respect for the complexities of language and what readers bring to this*. We suggest that in scientific writings, presentations and other communications, the words, "renal" and "nephro" and their derivatives are more appropriate and should be freely used without any direct or indirect pressure or coercion by any medical journal, society, industry or any other entity to compel patients, health care providers, researchers and other stakeholders to change their selected words and terminologies. We present our summary statement under Table 2 and call on colleagues to embrace the terms "kidney", "renal" and "nephro" as they are used

### Box 1 Quotes from patients with Kidney Disease related to words kidney, renal, and nephro

"I can't imagine calling my local 'renal unit' the 'kidney unit' for example. Renaming our UK Renal Association as the Kidney Association would be inappropriate. We have a 'renal community' and it feels more encompassing than a 'kidney community'.—A patient undergoing peritoneal dialysis therapy in the United Kingdom

"There is much about the vocabulary associated with CKD and ESRD that has a negative connotation, which can subliminally affect outcomes. I would love to expand on those thoughts and comment about the distinction between renal and kidney, as both are important to the understanding of these conditions. To revert everything to "kidney" appears to me to "dumb down" the nomenclature, and in my mind, is insulting to all that dialyzors deal with on a daily basis."—A home hemodialysis patient from the USA

"I think let individual groups do what they feel is best to reach their audience. If they want to use different language great but don't impose it on the rest of us."—A kidney transplant recipient from the USA

"If they want to use kidney instead of other terms, great—but don't impose it on the rest of us. When you have an illness, you have to learn a new vocabulary with all the complex terminology to survive and thrive."—A Kidney Patient leader from Southern California

**Table 2** Summary statement of the authors' suggested approach to nomenclature in the field of kidney health and disease, also known as renal medicine or nephrology

- i Kidney, renal, and nephro do not have the same meaning. Kidney is a noun, renal is an adjective, and nephro is the root of a number of kidney related words
- ii These three words also differ in the nuances of their meanings
- iii Part of the greatness of the English language is its preciseness and descriptive power. The English vocabulary contains as many as 250,000 more words. Any workgroup including KDIGO should think carefully about removing or enforcing words from the English lexicon
- iv The recommendations of the KDIGO workgroup are highly respected because many workgroup members are authorities in the field of nephrology and also because they often base their guidelines on a careful structured review of the literature. This is not the case for their recommendations to substitute the word kidney for renal
- v We are not certain whether there has been a structured literature review of the glossary usage and difference in meaning of kidney, renal and nephros by healthcare professionals, scientists and the lay public and encourage workgroups including KDIGO to consider such an endeavor
- vi We are not certain whether any of the members of the KDIGO workgroup are authorities in linguistics or the vocabulary including of the English language or medical nomenclature and encourage additional efforts to this end
- vii If the KDIGO workgroup has not conducted a scientifically sound literature study and has not had expert input for authorities concerning the English language, the stated premise underlying this arbitrary glossary that changing the English language will help kidney patients or the public at large needs to be scientifically re-evaluated including using similar approaches in non-renal disciplines of medicine and health care (see Table 1)
- viii We also suggest that a serious matter of this extent should be put to more debate and possibly voted by the concerned parties including scientists, healthcare professionals in nephrology including nephrologists, nurse practitioners, physician assistants, renal and dialysis nurses, renal dietitians and technicians and especially renal patients and their families, as well as policy makers. These parties should be exposed to a background statement and pro and con arguments before they are asked to vote
- ix As long as the deliberations and the guideline put forth by KDIGO seem arbitrary, biomedical journals or other entities and justifications should not impose restrictive language to scientific communications

in different contexts; we also ask that scientific and medical journals not impose terminology restrictions for kidney disease and kidney health. We offer a “renal omelette” to all who support the never-ending efforts to improve outcomes of patients with kidney disease (Fig. 1).

### Appendix For Fig. 1

#### When I use a word

Though frequently misquoted—and usually wrongly attributed to the Red Queen in “Alice’s Adventures in Wonderland” by Lewis Carroll or Charles Dodgson—there is an exchange in his next book “Through the Looking Glass, and what Alice found there” [Macmillan, London, 1872] between Humpty Dumpty and Alice, which is instructive and pertinent to this debate:

“‘When I use a word,’ Humpty Dumpty said, in rather a scornful tone, ‘it means just what I choose it to mean—neither more nor less.’

‘The question is,’ said Alice, ‘whether you can make words mean so many different things.’

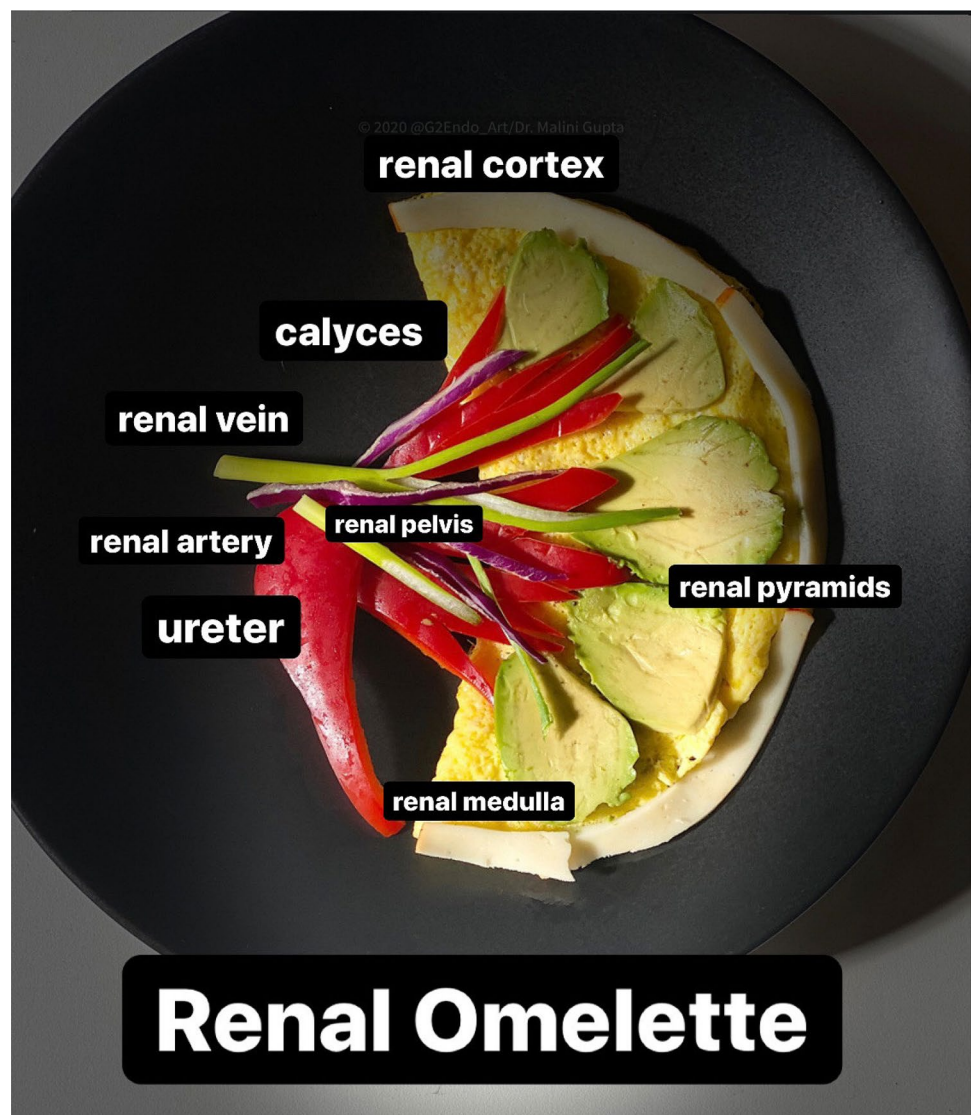
‘The question is,’ said Humpty Dumpty, ‘which is to be master—that’s all.’”

The recent dissemination of a central message from KDIGO, [2] by diktat, to over 20 journals [11–33] with

noted form in successfully publishing new clinical and scientific findings in nephrology (also known as kidney medicine, or renal disease) serves to make Humpty Dumpty look unambitious in his aims, and perhaps tries to channel the noted practice of the Middle Ages, namely the issuance of Bulls from the Pontiff. This whole discussion is framed around the English language, even though the derivation of all three words under discussion: kidney, renal and nephros are not in themselves words which have derived straightforwardly (kidney) or at all (renal, nephros) from “English”, or its use over many centuries. Thus this diktat has purposefully ignored the origins and importance of the French word “un rein” which clearly derives from the Latin “ren”, and the German word “niere(n)” (or as seen in Sweden, “njure”) which comes from Middle High German.

George Orwell, an iconic author with trenchant views on the use and abuse of language, in 1946 was towards the end of his creative life but had yet one more towering masterpiece to reveal to the world. In an essay from that year, called “*Why I write*” [*Collected Essays, Journalism and Letters (CEJL)*, I, pp. 23–30], the noted author gave valuable insights into his artistic and linguistic goals. At the essay’s climax we find the often-quoted comment that ‘*Good prose is like a window pane.*’ ‘Of later years,’ he wrote, ‘*I have tried to write less picturesquely and more exactly.*’ While such elevated goals elude most of us, it behoves us to address the issue of how what

**Fig. 1** Renal Omelette created by Dr Malini Gupta (tweeter handle: @MaliniGuptaMD, Endocrinologist, Artist, Creative Writer and Director of G2Endo in Memphis, TN). See also [Appendix](#) for an Epilogue on the English language including list of 24 journals [11–33] that have published KDIGO’s Glossary



‘nephrologists / renal doctors / kidney doctors’ actually do, and how best to communicate that information to peers, and patients, in both prose and speech. There is a tradition, still very much alive, of complaint against jargon, Americanisms, dead metaphors and obscure grammar, all usages which militate against Plain English. Does this present debate therefore echo old linguistic conflicts by invoking the “call a spade a spade” brigade once more to ride forth to rescue a nervous and apprehensive populace?

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