

NephMadness 2015: Nephrology as a Cornerstone of Medicine



The specialty of nephrology is facing an identity crisis.^{1,2} Applications to fellowship programs are declining, leaving even well-established programs unable to fill allotted positions.^{3,4} Further threatening the specialty is loss of expertise as aspects of nephrology practice are being absorbed by hospitalists, intensivists, rheumatologists, interventional radiologists, and cardiologists. Challenging these trends will require creativity and new approaches. A goal of these new approaches should be highlighting the diversity and positive attributes of nephrology practice in order to stimulate interest in the field while teaching cutting-edge concepts, while having fun.

NephMadness began in March 2013 as a social media education project of the *AJKD* blog. Up to that point, nephrology-related social media forays had been limited to brief Twitter interactions and isolated posts on a few academically minded nephrology blogs that occasionally received comments. From the beginning, we envisioned NephMadness as an ambitious month-long social media campaign, featured in multiple *AJKD* blog posts that encouraged deep engagement.

WHAT IS NEPHMADNESS?

We modeled NephMadness after the National Collegiate Athletic Association (NCAA) Basketball Tournament, colloquially known as March Madness. NephMadness replaces the usual field of 64 basketball teams with 64 concepts in nephrology, arranged into a tournament bracket. During 6 rounds of knockout competition, the 64 teams/concepts are progressively narrowed to 32 teams, then the Sweet 16, the Elite 8, the Final Four, then 2, and ultimately a champion. As the tournament advances, our contingent of NephMadness bloggers play the role of tournament analysts, reviewing strengths and limitations of the winners and losers, explaining forthcoming topics, and generating enthusiasm.

Each of the 64 concepts is described in short, fully referenced, entries written by guest authors who are experts in the field. The posts are not meant to be comprehensive topic reviews, but rather casual summaries of the interesting aspects of a concept written in a conversational voice appropriate for social media. As concepts successfully survive early challenges and advance through the brackets, additional posts highlight nuances of the topic, newer data, and alternative view points.

The NephMadness material constitutes a type of learning module increasingly referred to as free open access medical education (FOAMed),⁵ which can take the form of blog posts, podcasts, online discussions,

videos, or recorded presentations. FOAMed is gaining popularity in multiple medical specialties, in particular, emergency medicine and critical care. The NephMadness project was our impetus to produce hundreds of pages of nephrology-focused FOAMed. The prolonged nature of the campaign also invokes a concept called spaced education,⁶ defined by presenting information repeatedly over time instead of in isolated binges, thus hopefully increasing the uptake and durability of knowledge. Several randomized trials conducted among medical students and residents have demonstrated that the technique, which also includes repeated testing, boosts knowledge by up to 50%, with improved (up to 2 years) duration of retention.⁶

NephMadness focuses on topics from across the broad scope of nephrology. We emphasize emerging science and advances in the field to challenge any perception that nephrology is stagnating. In the past, we have drawn concepts from major randomized clinical trials, basic science research and techniques, and landmark initiatives such as KDIGO (Kidney Disease: Improving Global Outcomes) and the Medicare dialysis program.

The *AJKD* blog⁷ is the primary mechanism to deliver the educational content,⁸ and Twitter functions as a lively back channel between educators and learners. The size and scope of NephMadness continues to grow, with 2015 breaking new boundaries in how educational content is delivered and consumed in nephrology.

HOW IS NEPHMADNESS PLAYED?

Participation in NephMadness mirrors how basketball fans participate in March Madness. Fans fill out brackets predicting which team/nephrology concept will win each matchup. NephMadness uses a dedicated tournament website in which participants can easily enter all their bracket predictions. When the tournament begins, each player can see every other player's brackets. Points are awarded for correct predictions, and scores are automatically tallied, ranked, and displayed. The results are published at about the same pace as the real basketball tournament, covering a 3-week period in March and April.

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Box 1. The 8 Regions and Selection Committee for NephMadness 2015

1. Obstetric Nephrology: Phyllis August, MD
2. Infectious Disease and Nephrology: Samir Gupta, MD
3. The Heart and Kidney Connection: Andrew A. House, MD
4. Nephrology and Nutrition: Allon Friedman, MD
5. Genetic Nephrology: Conall O'Seaghda, MD
6. Critical Care Nephrology: Lakmir Chawla, MD
7. Nephrology and Vascular Surgery: Timmy Lee, MD
8. Onconephrology: Mitch Rosner, MD

Participants are encouraged to tweet, blog, and promote their picks. In this way, NephMadness deviates from classic medical education with its bright line between teacher and pupil. For previous NephMadness tournaments, medical bloggers have written on their own blogs about the concepts and explained their selections. Twitter has hosted spirited exchanges on the strengths and weaknesses of many concepts. Some discussions were intellectual debates complete with links to the medical literature; others resembled the trash talking one would expect to find in a pick-up game of 3-on-3 basketball. In 2013 and 2014, during the month of March and April, the hashtag #NephMadness was the dominant nephrology hashtag on Twitter. For 2014, participants who had the greatest number of correct picks, in addition to those who we thought produced the best original content on social media about NephMadness, won prizes.

HOW ARE THE WINNERS PICKED?

The glaring difference between the NCAA tournament and NephMadness is that there is no actual head-to-head competition to determine the winners of each matchup. We could use the wisdom of the crowd and have the teams with the most votes win each round. However, when we tried this strategy in the inaugural year, the concepts with the most name recognition won most of the votes. In our view, part of the mission of NephMadness is to cast light on less obvious and more obscure concepts that deserve more recognition.

For example, in last year's matchup of balanced solutions versus normal saline solution, the popular vote would have had normal saline solution winning in a landslide, but we handed the victory to balanced solutions because of their increasing acceptance and potential critical role in preventing acute kidney injury, as shown in a recent trial.⁹ Basic science work has corroborated these findings and demonstrated that a chloride-rich fluid such as normal saline solution may result in more kidney injury.¹⁰ Even a recent editorial purportedly supporting normal saline versus balanced solutions conceded:

Although we have attempted to show 0.9% NaCl in a positive light, it must be accepted that it is a poor candidate for fluid

resuscitation and that alternative crystalloid solutions, several of which have been developed over the last years, are indeed better.^{11(p1,094)}

In the 2014 tournament, rituximab, which also has a high profile, exited early from the tournament. We believed that a drug with multiple noninferiority comparisons in which it failed to deliver the predicted reductions in side effects was not worthy of a win.^{12,13} The crowd did not agree with us, resulting in a spirited debate. However, we would argue that raising questions and challenging commonly held beliefs in a provocative manner forces the learner and the educator to think beyond conventional dogma. This year we are deputizing a blue ribbon panel including *AJKD* Deputy Editor Daniel Weiner and Education Editor Scott Gilbert to determine the winners. The identity of the remaining members of the panel will be revealed on the *AJKD* blog in March.

WHAT IS NEW FOR NEPHMADNESS 2015?

The theme for NephMadness 2015 is nephrology's connections with other specialties. The 8 topics (called regions in honor of the geographically organized contests in March Madness) are listed in **Box 1**. When interacting with other specialties, we as nephrologists need to broaden, not narrow, our scope of practice.¹⁴ It is difficult to stake out one's turf without being aware of other specialties' state-of-the-art issues. It is with that spirit that we seeded the field of this year's NephMadness. We encourage members of the nephrology community to show passion and enthusiasm for their chosen field by playing and interacting with NephMadness. Subscribers to *AJKD* will find a printed copy of the NephMadness 2015 brackets bundled with their March issue. Those angling for public glory or a prize should visit www.ajkdblog.org for links to the bracket site, more information on prizes, and the contest rules. Let's revive our specialty by sparking the interest of students and residents.

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