Introducing 1st Year Pediatric Residents to Pediatric Nephrology: First Steps in a Long Journey

Roshan P. George, MD
Emory University and Children’s Healthcare of Atlanta

Abstract

There is a shortage of pediatric nephrologists across the country and so it is essential that during training, residents are knowledgeable about basic fluid management and care of children who present with kidney disease. Current American Board of Pediatric (ABP) in-service and board examination scores in areas of pediatric nephrology is also relatively low for our trainees. Observing this need within our community, this project aims to implement a structured curriculum to increase exposure and training in common aspects of nephrology for interns; in collaboration with our pediatric residency program director, chief residents, hospitalists and colleagues in the nephrology division.

The overarching purpose of this proposal is to systematically implement a structured curriculum in pediatric nephrology, for pediatric residents and to evaluate this curriculum through the following outcome measures:

1. Compare pre- and post-tests on the content with a short quiz
2. Obtain information about the residents’ attitudes towards nephrology in general, their decision to pursue further training, and feedback about this curriculum.
3. Evaluate change in the American Board of Pediatrics, In-service examination scores for the residents overall, after instituting this curriculum

Methods

Kern’s curriculum development model was used in a systematic way to develop this curriculum.

The general needs assessment consisted of literature review that revealed among other findings, a declining interest in nephrology careers among trainees.

Target needs assessment was based on conversations with outgoing pediatric residents and current faculty, revealing that residents had little confidence in caring for many aspects of kidney disease and supported early exposure to pediatric nephrology.

Learning objectives that are specific, measurable and take into account ACGME competencies, feasibility of educational strategies and learner assessment were created.

A short study guide was created, to be given on the first day of the rotation. Learning content for the study guide was based on the Pediatric Board Examination Content.

The interns will be given a checklist of basic topics that they have to see and learn about, during the rotation and since they may encounter different faculty in the inpatient and outpatient setting, this would be in the form of a “scavenger hunt”.

A curriculum evaluation- a short Likert scale with space available for written comments is included. This evaluation is based on level one of Kirkpatrick’s Evaluating Training Programs

Pre and post-tests will be administered during this rotation. In the future, 2nd and 3rd year residents will participate in the extended curriculum with learning activities as flipped classroom and case based simulation along with an opportunity to participate in a formal rotation on pediatric nephrology service.

Background & Purpose

The current prevalence of pediatric kidney disease and the need to have a fundamental understanding of many aspects of renal functioning for any physician, makes it imperative that pediatric residency trainees get a strong foundational experience in pediatric nephrology. There is limited published literature on the knowledge base and comfort level of residency trainees in caring for patients with kidney disease; as well as dearth of innovative models for exposure to the varied aspects of this specialty. Methods: This curriculum provides exposure to pediatric nephrology for interns (1st year residents/PGY1), in outpatient and inpatient settings, laying the foundation in the diagnosis, evaluation, and management of basic pediatric nephrology conditions. The interns receive a short study guide which takes about 30-45 minutes to review, two 30 minutes lectures, as well as exposure to patient encounters in the inpatient and outpatient setting with faculty supervision.

Results: We started with a needs assessment in our faculty and outgoing residents who overwhelmingly supported nephrology exposure early, in the intern year. We will administer a pre-test and a post test as well as a qualitative survey for assessment.

Conclusion: This curriculum, directed towards incoming first-year residents may also be used by other trainees in nephrology. It will provide basic education, exposure to the field as well as specific outcome measures to evaluate and improve the rotation.

The goal for the trainees is not to become nephrologists but to be confident in their abilities in basic fluid management and initial evaluation of conditions such as hypertension and chronic kidney disease which is unfortunately becoming common pediatric issues in the general community. In the process, if they do develop interest in pursuing further specialized training in pediatric nephrology, our curriculum will set the stage as well; since there has been a gradual dearth in the pediatric nephrology workforce in the last decade.

Mapping our curriculum to ACGME competencies will help trainees to also apply these skills (example: interpersonal skills, communication skills, knowledge of health and transition of care) to various areas of patient care even outside nephrology.

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**References**


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**Check List and Evaluation Form for Pediatric Nephrology Curriculum**

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<tr>
<th>Question</th>
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**Innovative Nephrology Rotation Schedule for Interns**

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<th>Time</th>
<th>Activity</th>
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<tr>
<td>8:00AM</td>
<td>Introductory talk and 1st lecture: 45 minutes</td>
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<tr>
<td>8:45AM</td>
<td>Inpatient rotation- consult team and inpatient team: 4 hours</td>
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<tr>
<td>12:00PM</td>
<td>General nephrology outpatient clinic: 4 hours</td>
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<tr>
<td>1:00PM</td>
<td>Participation in education and planning meetings: 1 hour</td>
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<tr>
<td>2:00PM</td>
<td>2nd Lecture, evaluation and debrief: 1 hours</td>
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