The size of the Pediatric Nephrology workforce remains an important issue. With increasing demand for pediatric nephrology services, concerns exist whether there will be sufficient pediatric nephrology fellowship graduates to meet these growing needs.

The ASPN has been considering this in a number of ways. The following Tool Kit is a compendium of collected suggestions from pediatric nephrologists and residents on increasing resident interest in pediatric nephrology.

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Workforce Resident Initiative

General Principles
1) Increase and maximize contact between residents and pediatric nephrologists
   - Ensure this contact is positive and demonstrates (an appropriate level of) enthusiasm.
   - Mentorship
     - Consider being a faculty advisor, and can offer advice for residents interested in pursuing pediatric nephrology and other pediatric subspecialties
     - Make sure your section has a "Pediatric Nephrology" contact person to help advise/guide residents with possible interest in pediatric nephrology
     - If applicable offer, mentor, and develop longitudinal research experiences with potentially interested residents
2) Offer an elective in pediatric nephrology for all resident years
   - Advertise this elective experience when you have contact with residents (during lectures, small groups, etc.)
   - In particular, encourage 1st and 2nd year residents to explore pediatric nephrology through this elective.
3) Clinical Involvement
   - Wards
     - When residents are following/caring for your patients, be sure to take time out to introduce yourself, teach, advise, mentor, thank them, and answer their questions
   - Clinics
     - Invite residents to your clinic to augment their outpatient pediatrics experience.
     - Satellite Clinics--don't forget satellite clinics in this regard. Especially as for some smaller residency programs this may be the only potential direct interaction with a pediatric nephrologist
4) Meetings
   - National Meetings--invite residents to join you, especially at ASN (2nd year residents) and ASPN (1st year residents)!
   - Local Meetings--Volunteer to participate in Pediatric Subspecialty Career nights and Info sessions, etc. sponsored by the residency program.
5) Volunteer Experiences
   - Invite residents to “kidney camp” electives and mentor them during this experience
TOOL KIT FOR ENGAGING RESIDENTS IN PEDIATRIC NEPHROLOGY

1. **1st Year Residents (Interns)**
   a. Contact your *Residency Program Director(s)* to be sure your pediatric nephrology section can get involved.
   b. Inpatients
      i. Demonstrate through example that you are welcoming of *interns to follow and care for your patients*.
      ii. When interns are following/caring for your patients, be sure to take time out to introduce yourself, teach, advise, mentor, thank them, and answer their questions
   c. Outpatients
      i. This may be limited with respect to time, but invite *interns to your clinic if possible*
   d. Lectures
      i. Get involved in the residents lecture/didactics and/or small group session series
         1. Many *topics may be fair game* (and may not be getting done, and/or are being given by general pediatricians instead)
            a. Fluids/Electrolytes/Dehydration
               i. Hyponatremia/Hypernatremia
               ii. Hypokalemia/Hyperkalemia
               iii. Acid/Base disorders
            b. Hematuria/Proteinuria
            c. Pediatric Hypertension
            d. UTI/Congenital Anomalies
            e. Renal Failure
               i. AKI
               ii. CKD
   2. *Residents really enjoy case based discussions* and we can fill up a session for these just by reviewing our recent patients!
   i. Sites without pediatric nephrology
      1. Offer to give lectures and share experiences with residents at these sites
      2. All of the above applies to these sites as well
   e. As you get to know interns, encourage them/invite them to consider an elective with you in their later training
      i. Invitations to summer kidney camps
      ii. Invitations to participate on research projects/teams
      iii. Interns are busy and even if interested, may not have the time to follow-through on these, so be sure to open up discussion again the following year
2. **2nd and 3rd Year Residents (ESPECIALLY 2nd YEARS)**
   a. Contact your *Residency Program Director(s)* to be sure your pediatric nephrology section can get involved.
   b. All of the above applies to these 2nd and 3rd year residents as well.
   c. Outpatients
      i. Invite senior residents *to your clinic*
         1. Offer a weekly or monthly clinic session to augment their outpatient pediatrics experience
            a. For example, may be available weekly during electives and other more “flexible” rotations
         2. Consider other creative ways to get residents on other outpatient and/or inpatient “rotations”
            a. For example, shared rotations with other services or subspecialties
            b. A pediatric nephrology clinic option in “Ambulatory” and/or other outpatient rotations
      ii. Satellite Clinics
         1. Some programs don’t have a pediatric nephrologist
         2. If you go to satellite clinics affiliated with others programs, invite residents from these programs to join you for some direct experiences.
   d. As you get to know residents, encourage them/invite them to consider an elective with you in their later training
      i. Invitations to summer kidney camps
      ii. Invitations to participate on research projects/teams
      iii. Senior residents are the ones with the most time to both consider and follow through on these invitations

3. **Pediatric Nephrology Elective**
   a. Be sure your residency program offers a pediatric nephrology elective
      i. Ideally make this elective available to interns as well as 2nd and 3rd year residents.
      ii. Discuss with Program Director mechanisms to enable residents to take subspecialty electives earlier in their training
      iii. Join educational committees and lobby for more (and earlier) subspecialty exposure
   b. Consider allowing shorter (e.g. 2 week) experiences rather than limiting it to only a full (e.g. 4 week) elective.
      i. 2 weeks may be difficult for you to get a complete assessment on the resident to evaluate their ability and progress, but it is still long enough for them to
glimpse what pediatric nephrology is about and may influence their career decisions
ii. Likewise, it’s a starting point to develop a mentorship type relationship
c. Provide feedback to residents completing the elective
   i. When applicable, encourage them to consider a career in pediatric nephrology
   ii. Demonstrate your appreciation of their efforts and interest in their development by taking them out to lunch or dinner.

4. Career Mentor
   a. Contact your program director and volunteer someone from your section to be a pediatrics career advisor, in particular for residents interested in pediatric subspecialty careers
   b. Identify a Pediatric Nephrology career mentoring “site ambassador”
      i. Advertise this contact person so people like the Clerkship Directors, Program Directors, etc...know who to go to
      ii. Periodic email (see below) to residents making them aware of opportunities, such as National and Local Meetings
      iii. They would be aware of helpful opportunities and experiences
         1. for clinical work—kidney camps, joining you in clinic
         2. for research and other academic projects, local and/or national grants students might qualify for
         3. National and Local Meetings (see below)
      iv. Address any financial constraints that might prevent an interested resident from pursuing a nephrology option - separate report
         1. Effectiveness of loan repayment program
         2. Strategies to release financial constraints
         3. Set up local and national Nephrology specific loan repayment programs
   v. Correct misperceptions regarding perceived pediatric nephrology career satisfaction and workload

5. Meetings
   a. Get involved in Resident Meetings
      i. E.g. “Career planning” Meetings/Panels
      ii. Most programs have Pediatric Subspeciality interest nights or events; or other specialty interest events
         1. Be sure pediatric nephrologists are participants, on a panel with other pediatric subspecialists
         2. If your program doesn’t have such a meeting, then consider speaking with your program director and assisting in its development.
   b. Invite students to National Meetings
      i. The ASPN Meeting is an ideal meeting, especially for the intern
1. The ASPN Meeting provides them terrific exposure to Pediatric Nephrology as well as other subspecialties
   a. They can explore some other pediatric fields if they choose
   b. They are not “committing” but rather experiencing and informing their future decisions
ii. **ASN is great** too, and timing/content may be particular attractive to the senior resident
   1. Provides a frame of reference to focus on Nephrology and the various research/academic opportunities
   iii. Dialysis meetings may be “too” specialized for the resident’s frame of mind, though meetings directed towards the Pediatric Nephrology Fellow would likely still be a good choice for the relationships and the mentorship connections that are more easily developed amongst peers.

6. **ASPN Mentorship and Resources**
   a. Web mailbox in the ASPN website
      i. For questions from residents from programs without a pediatric Nephrologist
   b. Teaching Material/Curriculum Toolbox (see below)
   c. Pediatric renal fellow network that includes a blog and board-type questions that are posted periodically.
   d. Survey pediatric nephrology programs that have produced multiple residents going on into nephrology to see what strategies they use.
   e. Maintain a list of Pediatric Nephrologists that would make themselves available to programs that do not have on-site Nephrologist.
   f. Develop a mentorship manual for general use and reference on the ASN website.

7. **Curriculum for Residents**
   a. Have a curriculum for all residents to experience
      i. This can be individualized from institution to institution based on local resources
      ii. ASPN website can offer some resources for those smaller sections to assist in this development and even for larger divisions to make things more uniform
   b. Overview of Pediatric Nephrology careers
      i. Options
      ii. Joys and Benefits
   c. Lectures
      i. Fluid and Electrolytes, Dehydration
         1. Hyponatremia/Hypernatremia
         2. Hypo-/Hyperkalemia
         3. Acid-Base Disorders
      ii. Hematuria
      iii. Proteinuria
      iv. Acute Kidney Injury
v. Chronic Kidney Disease
vi. Hypertension
vii. Congenital Genitourinary anomalies
viii. Urinary Tract Infection
ix. Hereditary Kidney Disease
d. Cases
e. Questions