



Neonatal-Perinatal Medicine Fellowship

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Welcome to the exciting world of neonatology! A Neonatal-Perinatal Medicine (NPM) fellowship program will introduce you to the wide range of pathology, procedures, and personal connections that are integral to caring for newborns and their families. In this chapter we will introduce you to the key aspects of neonatology fellowship and life after training.

Choosing the Right Fellowship Program for You

The type of fellowship program you choose has a lot to do with the neonatal care you wish to practice after training. In practice, some neonatologists work in level IV neonatal intensive care units (NICUs) seeing the smallest and sickest newborns, while others work in regional NICUs with lower acuity. After fellowship, some physicians dedicate the bulk of their time to research,

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while others focus their time on bedside care. After training, you will have the choice of working full time, part-time, or fulfilling clinical duties within the NICU as well as through other hospital roles. A NPM fellowship program must prepare their fellows for *any* of these future paths. Of course, training programs across the country are not identical, nor are their affiliated NICUs. When researching fellowship programs, ask yourself the following questions:

- What am I passionate about? What are my research interests?
- Is there a potential mentor at the institution that I am excited to work with?
- What lifestyle do I ultimately want? Do I see myself working in a primary clinical role or a research role or an administrative role?
- Are there other factors, such as a significant other or kids, or personal interests, which I should factor in to my decision making (e.g., should geographical location be considered based on partner's work, family)?

Not everyone will know the answers to these questions before starting – and that's okay! Most people won't know what they want their faculty role to look like before starting fellowship. The key point is to spend time thinking about what is important to you and if the centers you are looking at will meet those needs. Fellowship programs allow you to tailor your research time to your academic interests, so investing time from the start to reflect on what those interests are is important. Consider the examples below (Fig. 8.1) about how you may translate an interest into opportunities available at a program.

Finding the Right Research Project and Mentor

Research, or scholarly activity, during fellowship is one of the most unique and exciting aspects of subspecialty training in pediatrics. Depending on the fellowship program, at least half of your

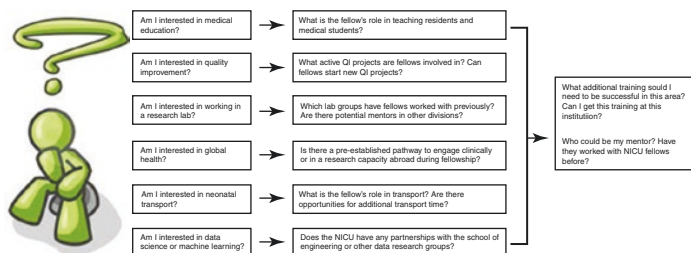


Fig. 8.1 Translating personal interest into scholarly work

3 years is devoted to scholarly activity. For some, scholarly activity during NPM fellowship is an extension of their prior work (e.g., PhD or Masters). For others, this might be their first exposure to dedicated research time during their career. Regardless of your past research experience, having a good mentor throughout your NPM fellowship is important.

There is no one best approach to identifying a research mentor, but there are a few steps everyone can and should follow at the start:

1. Explore your interests with your program leadership – either your fellowship director or designated faculty is assigned to help fellows start the exploration.
2. Think about what you want to do and what are some of the strengths at your institution.
 - If you don't know where to start, consider which broad areas of scholarship most interests you: basic and translational science, clinical research, health services and epidemiologic research, medical education, or quality improvement and patient safety.
3. Talk to the faculty within your division.
 - Capitalize on the informal opportunities while on service to find out what faculty members do with their nonclinical time and how their careers have evolved over time; for more junior faculty, ask about their fellowship research experiences.

4. Explore mentors outside of your divisions.
 - Almost all NPM fellowships are based at large academic centers or have an affiliation with one. If there is someone outside of the division or department who does something that overlaps your interest, set up a meeting with them.
5. Think about how your scholarly activity may align with your next career steps as a junior attending. This is a great time to explore something new or build on your current portfolio.

Your fellowship project does not have to be the beginning of your career's work. Instead you can think of it as a stepping stone, where you are building skills to add to your scholarship toolbox. Ultimately, no matter what your next career move is, scholarly activity during fellowship will help you become a better clinician by learning to ask the right questions, incorporating current evidence, thinking outside of the box, and better advocating for your patient and their families.

Choosing the right mentor is a key to your success. The faculty and program leadership in your fellowship will help you identify mentors based on experience of previous fellows and junior faculty. Make sure that they are ready to take you on as a mentee and that they have the time to do so. What you, as a fellow, are providing is time, interest, and dedication. In return, you should get mentorship and support. Explore and meet with lots of different people. Setting a meeting is not a commitment – think of it as speed dating. You never know who you may meet and what opportunities may come from it later.

Lastly, although neonatology is the largest pediatric subspecialty, the field is still relatively small and global. There may be opportunities to expand your mentorship network through long-distance mentoring. It's a great opportunity to explore, although you must always have someone locally as well to ensure you get proper support and continue your progress.

Networking on a National Scale

There are approximately 250 fellows entering NPM fellowship each year and over 5000 neonatologists in the USA. There are many opportunities to expand your network, starting within your

own hospital/division. Most states now have a perinatal quality collaborative (PQC), either in a formal structure or informal gathering of the local NICUs. The work of state PQCs probably has the biggest impact on the public health for your region when it comes to perinatal services, plus it's an opportunity to meet and collaborate with colleagues with whom you may exchange patients and frequently talk on the phone or telemedicine.

The largest organization of neonatologists is through the American Academy of Pediatrics (AAP) Section of Neonatal Perinatal Medicine (SONPM). Within that organization, you will find a home for everyone, no matter the stage of your career. Most relevant to the fellows and junior attendings is the Trainee and Early Career Neonatologist (TECaN) subgroup of the section, which was founded circa 2008 and has tremendously grown the resources to help ensure success and transition of fellows and junior neonatologists (Fig. 8.2).

In addition, the AAP is the largest advocate for all pediatrics in the local, regional, and federal governments; thus being an active and supportive member of the AAP is a statement of public health support and advocacy for all children and families. In addition to the national SoNPM, your AAP state chapter may be a great resource and home for local advocacy.

Within the AAP, there are other sections that may align with your interests – whether it's global health or advocacy, you can find additional resources and networks. There are many other organizations in addition to the AAP that may be of interest to you. Often, these organizations align with clinical, research, or

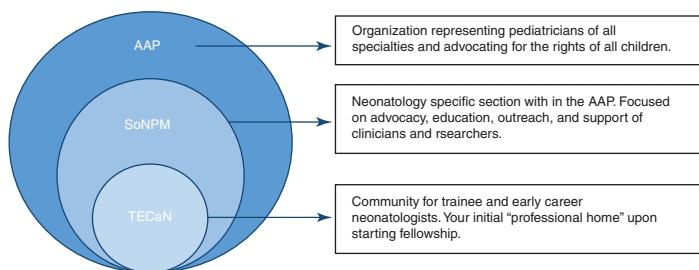


Fig. 8.2 Relationship between AAP, SoNPM, and TECaN

administrative interests. For example, if quality improvement and patient safety is your area of focus, then the Vermont Oxford Network (VON) is the perfect hodgepodge of networking with US and world experts in quality improvement. The VON Annual Quality Congress is one of the few meetings that is truly multidisciplinary and includes the family voice. In addition to the local work (because all improvement starts local!), VON has tremendously grown their global health network over the recent years. Talk to your faculty and research mentors, and explore the different opportunities that align with your interests.

Planning a Career in Neonatology

You may have come into the fellowship knowing exactly what your future career would entail or you may have embarked on a journey to discover your options throughout training. As you near the end of your training, reflect on which type of patients you enjoyed caring for the most and if you had the opportunity to train in several facilities, which type of unit do you gravitate to. Some attending positions will place you primarily within a single unit, while others may require you to cover multiple hospitals. Some units have dedicated NICU respiratory therapists, nurse practitioners, access to medical and surgical subspecialists, and frequently use technologies such as extracorporeal membrane oxygenation (ECMO). Other units are unable to admit high-risk infants below a particular gestational age or support those requiring significant respiratory support, necessitating transfer of these infants to a higher-level NICU. Consider the neonatal population you enjoy caring for the most and what type of physician role you will find the most fulfilling.

Beyond the unit structure, there are several important aspects of your role to consider:

- Will you be working with medical students, trainees, or advanced practitioners? What will your role be in terms of training and supervision?
- What is the patient to provider ratio?

- Who attends deliveries?
- What is the call frequency? Do attendings stay in the hospital overnight (“in-house call”) or do they take call from home?

The relative importance of each aspect of your future role will vary person to person, and it is important to use your time in fellowship to figure out what is most important to you in your career and life. As you negotiate your job, the salary is just one aspect of it. The aforementioned clinical factors in addition to the academic/nonclinical support provided are just as critical to consider when it comes to job satisfaction and work life integration.

But First...Boards

The NPM boards are typically offered every other year. As a new attending, it is important to plan ahead and ensure that you have enough time to adequately prepare for this exam. Most academic centers and practices will accommodate this need within your clinical schedule. Exam registration fees will cost you approximately \$3000 and are typically due several months before the exam, so have this amount set aside or better yet discuss these costs during contract negotiations. Institutional or practice compensation for the initial certifying board exam and board preparatory courses vary widely.

It is essential that you have a game plan for studying. Even if you have diligently read neonatology textbooks cover to cover, completed all the Prep questions, and read all the NeoReviews articles, a successful performance on the board exam requires detailed attention to the high-yield content areas that you may not have considered or spent an inordinate amount of time reviewing. It may be helpful to use the American Board of Pediatrics (ABP) Neonatal-Perinatal Content Specifications Outline as a guide to identify content areas you may need to focus on.

The nuances of when to start studying, what materials to use, and whose advice to listen to are largely dependent on you. You have taken and passed multiple board examinations to reach this

stage and already have some idea of what works best for you. What has worked for others may not be the best for your schedule, budget, or simply how you learn best. Spend some time thinking about how much time you'll need or have, how much money you are willing to spend, and what books and question materials you'd like to use.

One approach to board preparation is to attend one of the several comprehensive, intensive review courses offered annually at varying US cities that encompass physiology and pathophysiology of high-yield neonatal perinatal medicine. Keep in mind these usually come with a price tag of \$2000–\$3000 after registration, travel, lodging, etc. If you are unable to attend one of these courses for any reason, then you are not alone. Plenty of board takers choose self-study as an alternative to these courses to meet their needs. Create accountability for yourself with a timeline of content material, readings, questions, and images you'd like to review. Be honest with yourself about how much time you'll need for this and leave cushion for those areas that may give you some trouble. The bottom line is with a little bit of planning you can successfully fulfill your commitments and prepare for and pass your boards.