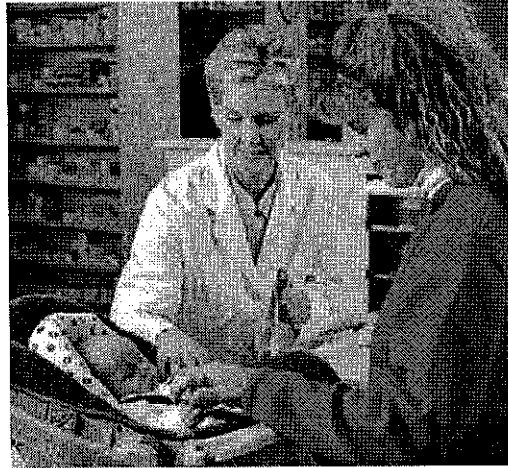


# chapter nineteen

## pediatric pharmacist

### A TRUE TALE

“Many pharmacists shy away from pediatrics, not just because drug dosing and delivery is more complicated than it is with adults, but because of the emotional issues of dealing with sick children,” says 46-year-old pediatric pharmacist Robert Kuhn, PharmD. But pediatric pharmacy has its rewards too, he adds. It offers benefits both in the interesting variety of the patients’

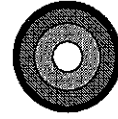


conditions and in the emotional rewards attendant on making an ill child well again. “Our patients run the spectrum in age [newborns to seventeen or so], and weight [850-gram newborns to 200-pound teens]. They present every condition and disease state from trauma to transplant. Just figuring out what will work becomes more intricate because you have to factor in so many different components — things like age, weight and severity of condition affect every decision. Dosing is far more complicated too, as so much of it is specific to the child. Delivering two milligrams of an antibiotic to a tiny newborn is pretty challenging,” says Dr. Kuhn. “You’ve really got to focus on the details. One small mistake can be catastrophic to kids, especially to premature babies. With an 800-gram baby, things can go bad

fast.” On the other hand, if the right problem is diagnosed and the right treatment prescribed, children tend to mend faster.

“Kids are like mirrors, reflecting how they feel. I have a theory, which I call ‘The positive hallway sign.’ If a kid is running up and down the hall or asking for Playstation®, it’s a better indication they’re on the mend than some of the scientific tests. Saying they can go home and watching the smiles light up their faces is always a bonus for the entire staff.”

Before becoming a pharmacist, Dr. Kuhn earned an undergraduate degree in philosophy from the Franciscan University of Steubenville, in Ohio, in 1976. One summer during his college years, he shadowed a pharmacist. “He did everything from changing watch batteries to recommending therapeutic agents,” says Dr. Kuhn admiringly. “There



### Pediatric Pharmacist Checkpoint

Can you overcome the fear of working with a sick child?

Would you feel comfortable with the plethora of delivery approaches and dosing that pediatrics require?

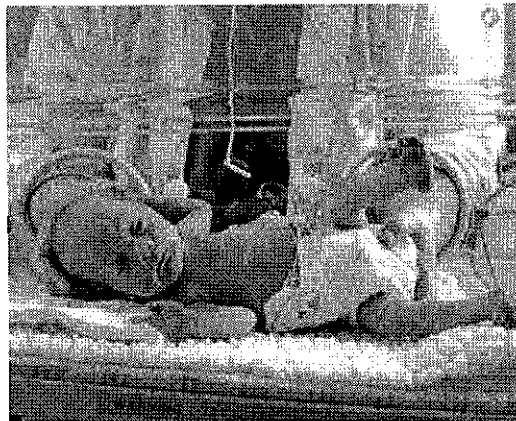
Would you welcome the variety and constant newness each situation poses?

*If so, read on*



#### Did you know?

More than 200 million prescriptions are written annually for children and teenagers.



was no end to the number of different things he took on in a day.” With that role model in mind, he pursued, and received, a Bachelor of Science degree in pharmacy from Ohio State in 1980. For the next 18 months, he worked as a clinical pharmacist in the Toledo Hospital, an 800-bed facility, preparing IVs, rounding with physicians and dispensing medications. A two-year

stint afterward at the University of Texas led to a Doctor of Pharmacy degree. After completing a fellowship in pediatric pharmacy in 1985, Dr. Kuhn joined the University of Kentucky where he is currently a professor in the Pharmacy Practice and Science Division of the University of Kentucky College of Pharmacy and Vice Chair of Ambulatory Care.

#### Profiling the job

Pediatric pharmacists practice in a variety of settings from academia to children’s hospitals, from large medical centers to smaller community hospitals. The setting influences, if not determines, their ancillary duties. In Dr. Kuhn’s case, working at a university hospital requires administrative duties, including committee work on drug policy, editing the *Kentucky Society of Hospital Pharmacists* newsletter, and lecturing before students, nurses, and physicians at least once a week. No matter where he or she practices, though, a successful pediatric pharmacist must be able to integrate general pharmaceutical information with that specific to pediatric drug therapy. And they should be available as needed. Often, this will include a visit to distraught parents in their time of need. Indeed, that’s the worst thing about pediatric pharmacy, Dr. Kuhn concedes, “the terribly sick children.” He consoles himself knowing that what he does makes a difference, far more often than not. “Our medications can help a child live longer or at least have an improved quality of life,” he says.

#### A day in the life

Dr. Kuhn specializes in respiratory diseases, particularly cystic fibrosis, of which there are some 30,000 sufferers in the U.S. He gravitated towards this

arena after attending his first cystic fibrosis camp in 1978. While there's no such thing as a "typical day" for him, Dr. Kuhn says, in a "typical" week he sees between 35 and 40 patients in his clinic, and consults with perhaps 30 parents. He also regularly rounds with physicians and pharmacy students, administers drugs in the clinic and hospital, and consults closely with house staff and attending physicians on patient treatment. At least 10 hours a week are devoted to research in his field of pulmonary medicine, especially research concerning cystic fibrosis, drug delivery and xenobiotic transfer. In the past 15 years he has trained 18 pediatric pharmacy residents.

Dr. Kuhn says his job has taught him to value his own "pediatric population" at home — his two young sons. Although he works on average 55 to 60 hours a week, he tries to leave the university every day in time to eat dinner with his family. Still, he regularly receives weekend calls asking for his advice and recommendations for therapies and alternatives. "I'm consulted on the tough cases. Everyone knows how to dose amoxicillin but the proper use of sodium arginine is a different story," he says.

"I used to think that pharmacists were the folks who only helped you with medications, but in 20 years I've seen it's a portal to diversity. You can be a clinical specialist in a hospital, in research, in corporate life, anywhere. It's a wide-open field."

Pediatric pharmacy is a cottage industry that's booming because of a dramatic shortage of qualified candidates. His current resident is being recruited by several children's hospitals around the country with an average annual salary of \$70,000. When you figure in outside consulting and lecturing, a pediatric pharmacist could earn \$125,000, he says.

But Dr. Kuhn says his compensation is markedly boosted by the gift of being in contact with the special children and families whose experience he shares. "If that doesn't change you, something's not right," he says. Dr. Kuhn himself was changed when his youngest son was born prematurely and spent 15 days in a neonatal intensive care unit. "While the experience was a harrowing one, it has allowed me to talk, firsthand, to parents about their fears and issues and to know more accurately how they feel."



#### **Did you know?**

Studies show that 46 percent of children take their medicines incorrectly.

The four most common mistakes with medicated children are:

- stopping too soon
- taking too little
- taking too much
- refusing to take the medicine

Being around sick children has reinforced Dr. Kuhn's belief in the possibility of miracles. Recently, a two-year-old girl had a cardiac arrest during a diagnostic procedure, and the medical team frantically used the defibrillator paddles to establish a heart rhythm. No one was optimistic that she would survive, much less survive with a normal quality of life. But amazingly, three days after that incident, she awoke from a coma, ate scrambled eggs and walked out of the hospital, fit and healthy.

#### **PATIENT POINT OF VIEW**

The girl, suffering from cystic fibrosis, was almost 16 and had been to the hospital more than 15 times in the past seven years. Dr. Kuhn had watched her suffer for a long time. She was in the final stages of the fatal disease and not responding well to medicine. He sorrowfully told her mother that they had taken drug therapy and medical management as far as it could go — that he'd make certain she was comfortable on morphine or valium, but that there was not a whole lot more he could offer them. The mother understood, he says, and she was grateful for the extra time the care provided for her daughter. "You have offered us so much already," the woman told him, "You have helped my daughter and me more than I can say."



## fast facts

#### **What do you need?**

- Desire to work with children
- Strong oral and written communications skills
- Strong investigative, research, and problem-solving skills

#### **What's it take?**

- A current, active license to practice pharmacy
- Bachelor of Science (BS) or Doctor of Pharmacy (PharmD) degree\*
- One-year general residency followed by a specialty residency in pediatric pharmacy may be required

#### **Where will you practice?**

- Children's hospitals
- Hospitals
- Universities
- Cancer centers

\*Students graduating after Spring 2004 will be required to have a PharmD degree