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A Look Back at Pharmacy Practice Over the Years

The practice of pharmacy has changed quite a bit over the last several years with pharmacy schools and pharmacists making an effort to become more patient centered. Still sometimes it takes a look back through the eyes of a healthcare professional who saw those changes takes place to truly appreciate just how far the practice of pharmacy has come and just how far its placed in healthcare has really evolved over the last few decades. You are listening to ReachMD XM160, The Channel for Medical Professionals. Welcome to Focus on Pharmacy, I am your host, Dr. Charles Turck, PharmD. Our guest is Dr. Robert Rapp, PharmD, Professor of Pharmacy at The University of Kentucky College of Pharmacy and Manager of Clinical Services in the Department of Pharmacy Services at the UK Chandler Medical Center in Lexington, Kentucky.

DR. CHARLES TURCK:

Dr. Rapp welcome to the program.

DR. ROBERT RAPP:

Thank you very much, it is good to be with you today.

DR. CHARLES TURCK:

Our introduction highlights your clinical and academic titles, but an abbreviated intro doesn't do justice to your service to the practice of pharmacy, take us through if you will how you have seen the practice of pharmacy change starting with your graduation from pharmacy school?

DR. ROBERT RAPP:

Sure I'd be very glad to and actually would have to start a year before I graduated when I noticed a want ad, I guess, on the bulletin board of the college of pharmacy. Well first of all we were going to open a new hospital in 1962 and this was 1961, I guess, really about a year and a half before I graduated in 1963 with my Bachelor's Degree in Pharmacy and Dr. Paul Parker was the Director **(01:30)** of Pharmacy at the University of Kentucky and he is sort of a father figure in hospital and clinical pharmacy and he posted a bulletin board ad at the college that he wanted to hire 6 or 7 pharmacy students to help get ready for the hospital opening in April of 1962 I guess it was. So I was 1 of 5 at that time, I guess junior pharmacy students that interviewed with Paul and fortunately I ended up getting hired as 1 of 5 students to begin the process of preparing what then was called Pharmacy and Central Supply and that's very important because not only did we do everything drug wise, but we also did all the sterilization of the all the operating room equipment, of all the sterile products used throughout the hospital. I know this sounds strange now, but we even re-sharpened and re-used our metal needles after

they were cleaned thoroughly. It was really an experience for me to go over there with the early pharmacists that he had hired and both the department of pharmacy as well as on the central supplies side and it was just simply a wonderful education. I got assigned to Tom Samuels, primarily in the packaging in central supply area. He taught me so much about sterilization, about sterility **(03:00)** testing, how you pack things. He was a true expert in both steam sterilization and gas sterilization and hot air heat sterilization as well and of course, you know you talk about this in this day and age. We prepared many of our irrigating solutions for the operating room. We prepared many sterile intravenous products. I mean it was literally a manufacturing process and then shortly after that of course, was the beginning of the area of total parenteral nutrition and we actually made our own TPN solutions out of protein hydrolysates, dextrose, and electrolytes. So a lot of things could be learned from that, and microbiology and that prepared me for what was going to be a later career in the infectious disease area. Well the hospital opened and Dr. Parker not only was Director of the Department of Pharmacy and Central Supply, but he also became the Chairman of Department Clinical Pharmacy in the College of Pharmacy. He worked with the Dean of the College of Pharmacy and they had this vision, they had this vision of clinical pharmacy where pharmacist would practice with physicians on the floor and that pharmacist would be the true drug experts and they would relate directly to the patients and he propagated those kinds of philosophies, not only **(04:30)** thisis staff pharmacists, but to the faculty at the College of Pharmacy and obviously to all of the people that worked for him. Bottom line is I graduated from the College of Pharmacy in 1963 and took a job as a clinical staff pharmacist for the wonderful salary of $7000 a year and began working in the Unit Dose area because we were kind of preparing all of our doses to begin the Unit Dose project. I worked a lot with Tom Samuels, not only did we supply all the drugs and all the sterile supplies, but way back in the early 1960s, we also set up all the ventilators. We helped the nurses in the intensive care units set up the ventilators, so I learned a lot about ventilator mechanics and all that sort of stuff and we also were responsible for the cast cards for orthopedics, and so we frequently would be in the emergency room helping orthopedists put on a cast on a broken leg or a broken arm, etc. Well around about the mid 1960s, we had accomplished Unit Dose and the words PharmD began to kind of permeate the area. The University of Michigan already had a PharmD program and the college working with Dr. Parker and other faculty members ended up picking 5 clinical staff pharmacists. Now we had a drug information center director at that time with the name of Dr. Charles Walton. Dr. Walton **(06:00)** is well known in clinical pharmacy circles, received many awards during his career. He was a Ph.D. in pharmacology by the way in addition to being a pharmacist. Dr. Walton served as the major professor for the 5 clinical staff pharmacists that were picked to go through what was called the PharmD program and become the first "clinical professors" in the Department of Pharmacy Practice at the College of Pharmacy. Dr. Walton arranged for us to take almost the entire second year medical school curriculum with emphasis on pharmacology and pathology and pathophysiology. Bottom line is we all graduated in 1970 with our PharmD degree and again under the direction of Dr. Charles Walton and we all then received our clinical assignments and I was assigned to Department of Surgery as the Clinical pharmacist in the Department of Surgery. So that kind of is the early years Charles. You know, I had a number of research interests during those years, we did an enormous amount of work on total parenteral nutrition and we studied the early fat emulsions, the intralipids, and put those together with the amino acids and the dextrose and the electrolyte solution. We also pioneered early enteral nutrition during those days.

DR. CHARLES TURCK:

If you are just joining us, you are listening to Focus on Pharmacy on ReachMD, The Channel for Medical Professionals. I am your host, (07:30) Dr. Charles Turck. Our guest is Dr. Robert Rapp, PharmD, Professor of Pharmacy at The University of Kentucky College of Pharmacy and Manager of Clinical Services in the Department of Pharmacy Services at the UK Chandler Medical Center in Lexington, Kentucky. We are discussing the changes Dr. Rapp has seen come to pass since he joined the profession in 1963.

So Dr. Rapp continuing from our discussion just before. Where did pharmacy practice go at University of Kentucky next?

DR. ROBERT RAPP:

You got to remember from a Unit Dose standpoint, University of Kentucky had the first Drug Information Center and had the first hospital wide unit dose system in the world, I guess. Now the University of Arkansas had some early experience with the unit dose, but they never achieved a hospital wide system, which we did and about 1967 or 1968 or something like that. It was fascinating and you know, what you have to remember is that industry didn't provide any unit dose injectables or tablets, just elixirs or solutions. So we had to package it all. Our injectables were primarily back-filled tubex. Tom Samuels developed a strip packager for tablets and capsules that

also labeled the individual strip package drugs. So lots of fascinating things were going on. Then in the very late 60s and the early 70s, we began a residency program, which in the early years was actually a 3-year program **(09:00)** leading not only to a residency certificate from The American Society of Health Systems Pharmacy, but also a PharmD degree. So our early classes were up to 14 to 15 residents working on both their PharmD degree and their residency certificates and of course that program continues today. We eventually had to separate the residency from the PharmD program because ASHP eventually said well you can't combine a residency clinical experience with a degree program and of course the program we have today is you only take PharmD in the program and they go into a first year pharmacy practice residency and then many of them stay in our program for 2 years to pursue a second year of specialty residency. And of course during the 70s, 80s, and 90s, we then solidified clinical practice, became much more sophisticated and began to specialize. We were kind of generalists back in the 70s and 80s, but we began to realize probably in the late 80s and 90s, the benefit of specialization. We of course now have specialists in virtually every area of clinical practice, not only me in infectious disease, but we have pharmacists in cardiology, pediatrics, oncology, internal medicine, critical care, it just goes on and on and on. And I want to tell you what Charles, **(10:30)** these specialists are good, boy are they good and once many of our physicians begin practicing with them, they find out that their patient care just simply can't get along without them. So that kind of gives you a little bit of an overview. It was I guess in the late 1990s on general surgery that antibiotic therapy I thought was so bad that really got me interested in the area of infectious disease and microbiology, and I of course have been in that area for the last 15 or 16 years of course, and then we began our antimicrobial stewardship program in Kentucky in 1988, of course I am very gratified that last year the Infectious Disease Society of America and the Society for Healthcare Epidemiology of America actually published the guidelines for antimicrobial stewardship and then those guideline, the 2 core members of the team are an infectious disease physician, but the second core member of the team is an infectious disease trained pharmacist. I look at that as perhaps the culmination of the things we have been trying to accomplish. What we got to figure out now is what is an ID trained pharmacist. So anyway that kind of gives you a little history of my 46 years in pharmacy and clinical pharmacy and pharmacy education.

DR. CHARLES TURCK:

Moving forward, how do you think the dynamic between pharmacists and other health care professionals is changing?

DR. ROBERT RAPP:

Oh it has changed tremendously. You know when I first came in to pharmacy, we were predominantly **(12:00)** concerned with the quality of the product that we dispensed and prepared. You know we are still concerned about that, but if you look at pharmacists in other countries, Japan, China, etc. they are still into that. We in the United States a kind of have swung away and have turned that over to industry and have become much more clinically oriented. So that has been maybe one of the most major changes I have ever seen in pharmacy practice over the last 20 or 30 years whereas now we are concerned with the drugs at the level of the patient, drug interactions, duplicate pharmacotherapy, adverse effects, and all the things that we try to prevent and try to make sure that the patient is on the most appropriate drugs we possibly can. So yeah, it has been a major shift, now unfortunately maybe we need to take 2 or 3 steps back and worry a little bit about the quality of drugs again because as you well know, many of our generic drugs, particularly parenteral drugs are coming from foreign sources and most notably places like China, India, etc. and we of course have had a number of major issues associated with the quality of those drugs over the past several years. So who should do that, should that be the generic manufacturer, well we already know the FDA **(13:30)** has had major issues with some of these generic manufacturers falsifying records, falsifying quality data, etc. Should it be the wholesaler, I am not sure the wholesaler is capable of that. What about the buying groups, should it be the buying groups, or should it be the individual pharmacist working with all those people to ensure that the products we get whether they are generic or name brand products indeed meet quality or should it be the FDA. You know, the FDA you know is trying to beef up their foreign inspection of plants, but I believe the figures say that right at the present time the FDA only has inspected maybe 10% of overseas manufacturing facilities at this point in time. So obviously that area is ripe for somebody to work out what we should be doing about the quality of the drugs that we are receiving in our hospitals and our pharmacies in this day and age.

DR. CHARLES TURCK:

We have been talking with Dr. Robert Rapp about changes to the profession of pharmacy starting in the early 1960s, Dr. Rapp thank you so much for joining us.

DR. ROBERT RAPP:

It has been my pleasure Charles. It is always fine to talk about not only the past, but the future and I appreciate the opportunity to be with you.

DR. CHARLES TURCK:

I am Dr. Charles Turck and you have been listening to Focus on Pharmacy on ReachMD, The Channel for Medical Professionals. Be sure to visit our web site at ReachMD.com featuring on-demand podcasts of our entire library and thank you for listening.