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Dr. Pepose explains the key responsibilities of a chief medical advisor.

JAY S. PEPOSE

MD, PHD, FARVO

COMPANY/ROLE: **Ocuphire Pharma, Chief Medical Advisor**

CLINICAL PRACTICE: **Pepose Vision Institute, St. Louis**

CLAIM TO FAME: **Contributing to the advancement of ophthalmology through industry collaboration**

> "The chief medical advisor of a company plays many different roles. An important one is to guide study design. Part of the job is to envision the unmet need that a product is going to meet. Then, you back up and determine the appropriate trial. You want the endpoints to demonstrate the need, but you must also bear the FDA process in mind. What will the agency require to demonstrate safety and efficacy?"

***CRST*: What has motivated you to stay on the cutting edge of techniques and technologies throughout your career?**

Jay S. Pepose, MD, PhD, FARVO: I have always wanted to play a creative role in the discovery of ophthalmic knowledge and treatments beyond the traditional practice of ophthalmology, and that has guided my career. I started in academics and focused on laboratory-based translational medicine as well as new surgical technologies. When I transitioned into private practice, I realized that I could maintain and strengthen my relationship with industry, perform clinical trials, and continue to evolve. While I could still help individual patients in my practice, my collaboration with industry could lead to a new device or drug that could benefit millions of people.

***CRST*: You were heavily involved in the initial clinical trials for excimer lasers and LASIK. How did that experience help you develop as a clinician?**

Dr. Pepose: My involvement began in 1989 with the initial clinical trial for the excimer laser, which was approved in 1995. Since then, I have been involved in more than 40 clinical trials and have published more than 200 peer-reviewed manuscripts. I have also been on the editorial boards of many clinical and scientific journals, and I was an executive editor of the *American Journal of Ophthalmology*.

Academic medicine taught me about hypothesis-driven studies. That carried over into clinical research and the FDA approval process. I began to think in terms of evidence-based medicine. I do not rely on information from a drug rep. Instead, I evaluate the actual study data, which improves my clinical acumen and practice.

***CRST*: How has your experience positioned you as a good partner to industry?**

Dr. Pepose: Let's say it's the pilot trial of a new accommodating IOL and I give the company feedback on how the cartridge ejects the lens or how the lens unfolds. Those insights can translate into modifications before the pivotal trial commences, and that can improve outcomes. I may be asked by a company to participate in panel presentations for a product. A lot of time and effort is required to become sufficiently knowledgeable about the product so that I can successfully field questions from the FDA and advisory panel.

***CRST*: How did your collaboration with Ocuphire Pharma develop?**

Dr. Pepose: I was introduced to the company by a colleague of mine, Eliot Lazar, MD. He works with many companies, and he thought that my skill set would be a good match for Ocuphire. I began as a consultant when Ocuphire was already a late-stage company. As it initiated phase 2 and 3 trials, my involvement expanded. We ran five clinical trials within 18 months. That's a lot of simultaneous trials and data analysis, abstracts, talks, publications, clinical trial designs, and so forth. As my role expanded, we all realized that the position of chief medical advisor would be more appropriate.

***CRST*: What other responsibilities does the role of chief medical advisor entail?**

Dr. Pepose: The chief medical advisor of a company plays many different roles. An important one is to guide study design. Part of the job is to envision the unmet need that a product is going to meet. Where does it fit in? Then, you back up and determine the appropriate trial. You want the endpoints to demonstrate the need, but you must also bear the FDA process in mind. What will the agency require to demonstrate safety and efficacy? Talking to key opinion leaders in the field is often required. It can't be just your idea of the unmet need or how a drug might be used, but you need the additional perspective of knowledgeable colleagues.

Additional responsibilities include how you would ideally want a drug labeled, choosing primary study outcomes, and identifying other aspects that clinicians are interested in, which could inform the choice of secondary endpoints that can support additional marketing claims down the road. Understanding the competitive landscape is another important facet of being a chief medical advisor, as is keeping abreast of the medical literature. The latest research can influence study and safety issues, for example. Also, the chief medical advisor provides input and critical evaluation of potential new drug assets as well as new applications of drugs within the portfolio.

***CRST*: What have been some of the biggest learning points of the role so far?**

Dr. Pepose: A New Drug Application follows an amazing process. I didn't fully realize the complexities, ranging from regulatory to chemistry and manufacturing and control issues. Some of the studies have been in areas where I have specialized, but others have not. Most recently, it's been a learning experience to interact with key opinion leaders in retina and help design a study in that subspecialty. I am always learning and doing something new, which is exciting.

***CRST*: You have a long résumé of working with companies of all levels and sizes. What drew you to a clinical-stage company?**

Dr. Pepose: With early-stage companies, you're trying to match them with investigators who have animal models of disease. You're attempting to develop evidence that supports a drug's mechanism of action and identify where it can be applied. The goal is to obtain enough basic science information to justify starting the FDA clinical regulatory approval process, progressing from preclinical studies to progressive phases of clinical trials.

I also enjoy working with late-stage companies because they are less likely to fail and are closer to starting later phases of clinical trials than early-stage companies.

***CRST*: What advice would you give surgeons who have an interest in collaborating with industry and want to make themselves more attractive to potential partners?**

Dr. Pepose: Early on, clinicians can talk to drug representatives they see every week and say, "I'm interested in getting involved in clinical research. How can I do that?" The reps may suggest speaking to industry colleagues who are designing or running clinical trials. Often, these trials are run by a contract research organization, and it may be looking for trial sites. It is important to understand that a commitment is required. For example, the organization will want to know that your site has a study coordinator as well as a principal investigator.

Involvement in a clinical trial is a job, not a hobby. You are expected to enroll patients, follow the study protocol, keep proper records, and quickly report any adverse events that occur.

Taking part in an industry presentation to the FDA is a fantastic opportunity for professional growth and learning. Companies hold mock FDA panels and review potential questions. Sometimes, they provide public speaking coaching for clinicians who will present the data to the FDA. ■

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