

Healthcare Company, Luminoah, and the Journey from Urgent Need to Critical Solution

Luna Labs' Innovation Alliance Kicked Off with Guest Speaker, Neal Piper, CEO of Luminoah

Interview with Neal Piper
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We believe we succeed faster together. Our Innovation Alliance provides opportunities for us to learn from each other through our experiences and lessons learned.

The following is a Q&A from our Innovation Alliance Speaker Series, where we host successful entrepreneurs to share their insights with our team. In this session, our Chief Commercialization Officer, Drake Goolsby, hosted Neal Piper, CEO of Luminoah, to talk about building a medical device company from a deeply personal experience.



Neal Piper, CEO
Luminoah

A Family's Journey

Drake: Let's start with your story. Tell us what led you to start Luminoah.

Neal: I began my career in business and spent a decade at Pfizer, where I worked across the Neuroscience and Emerging Markets divisions. I also served as President of the Global Health Fellows Alumni Business Network. My work took me across 18 countries, including Swaziland, Tanzania, Somalia, Nigeria, Nepal, and Cambodia, where I helped scale healthcare programs through Pfizer and Population Services International (PSI).

After leaving Pfizer, I moved to Charlottesville to help launch The Presidential Precinct, an initiative focused on global leadership. Then life changed dramatically.

When my son, Noah, was just three years old, he was diagnosed with a rare tumor at the base of his skull. He spent two years undergoing chemotherapy at UVA

Children's Hospital. Thankfully, Noah is now eight, in third grade, and thriving.

But during those two years, I witnessed a major gap in medical technology - one that changed the course of our family's life. Noah required an enteral feeding pump: a bulky, outdated device attached to an IV pole that hadn't seen meaningful innovation in decades. Here was my child, going through intense treatment, wanting nothing more than to come home and play with his twin sister, yet he was tethered to this immobile piece of equipment.

That moment stayed with me. It became the catalyst for Luminoah.

The Luna Labs Innovation Alliance Speaker Series continues quarterly, bringing entrepreneurs like Neal to share their experiences with our team. These conversations remind us that behind every successful innovation is a story of commitment to solving real problems.

Understanding the Problem. Innovating the Solution.

Drake: At what point did you see a possible solution? You had the conviction that something needed to be done, but when did it shift to “I can envision what the solution might be”?

Neal: First, we were grateful to be in Charlottesville with resources like Nikki Hastings, at [CvilleBioHub](#), who connected us to the [biomedical engineering program](#) at UVA. This was March 2020, and many BME students had lost their internships due to the pandemic, so they were willing to take a risk on a big idea from a dad trying to solve a real problem.

But we didn't rush into designing a solution. First, we listened.

We spoke with more than 50 stakeholders — hospital administrators, home medical equipment providers, clinical nutritionists, GI specialists, and patients themselves. We wanted to make sure we weren't just building around our family's experience, but addressing a broader, systemic issue, one that affects over 3 million people who rely on enteral nutrition across more than 300 disease states.

Then we partnered with a design firm and worked through nearly 100 design iterations. We knew the technical challenge was significant: we had to build a technology from the ground up, miniaturize the core mechanics, and deliver something closer to a modern insulin pump, something small, portable, data-enabled, and simple to use.

That's when the vision really started to crystallize.

Drake: Did you have one of those moments when you were heading down one path, hit a roadblock, and discovered something even more important?

Neal: Absolutely. We're now five years into this journey and optimistic about getting FDA clearance in the near future. Early on, I found myself getting attached to specific designs, but over time, I've learned to stay focused on what matters most: the mission. We're here to change the standard of care for people who rely on enteral nutrition. It's not about flashy features. It's about delivering a device that's safe, effective, and empowers freedom. We design with purpose — discreet, connected, and simple — so it fits into life, not around it.

One key learning was to fail quickly before getting too far into expensive processes. Once you're injection molding, changes become costly.

Drake: How do you keep your team motivated when wins feel like they're far apart?

Neal: Several things help us.

- Mission-driven focus: We make sure people are motivated by our mission, not just the job. We regularly share stories, emails, or videos from people whose lives we will one day impact. It helps our engineering team step back from the day-to-day technical challenges to remember why we're here.
- Team building: We have monthly all-hands meetings, pickleball competitions, and lots of celebrations together.
- Clear expectations and accountability: We have daily standups where everyone shares progress and roadblocks. We discuss not just where we are, but how our work fits in the bigger vision.
- Failing forward: We have open conversations about what could go wrong so we can address issues early.

Market Strategy and Commercialization

Audience: How do you engage with early stakeholders to get meaningful feedback?

Neal: People generally care about what they do and want to improve their field. I'd simply reach out on LinkedIn saying, "I have a son with this need. We want to change this technology. Do you have 15 minutes?" Many said yes. My network kept expanding.

Don't be afraid of people saying no. The worst thing that happens is they don't reply. The best thing is they do – even if it's after the 20th attempt. Be highly persistent in the early stages.

Audience: What's your biggest lesson learned from a design perspective?

Neal: We designed around a specific component, only to realize that the COGS target wouldn't work. We had to pivot.

But one of our mechanical engineers had been thinking about alternatives. When we needed to change direction, he essentially said, "I've been working on this as a skunkworks project. It has great potential." There's something to be said for creating an environment where ingenuity thrives.

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Neal Piper

For me, having a strong gut feeling about user needs has been crucial. Continuous feedback throughout the design process, from end users to purchasers, continues to shape our product, especially on the software side.

The challenge is that people who need our product are focused on surviving. They don't necessarily imagine that their situation could be improved. So we are creative in presenting possibilities and gathering feedback.

Looking Forward

As Luminoah approaches FDA clearance, the company's journey offers valuable lessons about turning personal challenges into innovative solutions. Neal's emphasis on mission-driven teams, iterative design processes, and persistent market research provides a roadmap for tackling these types of innovative ventures.