Investing in Medical Technology for Glaucoma

Glaucoma Today asked Bill Link, PhD, a seasoned investor in the health care industry, about the process of developing new surgical products for glaucoma and bringing them to market.

BY GILLIAN McDERMOTT, MA, EDITOR-IN-CHIEF

What is your involvement in venture capital as regards ophthalmology, glaucoma in specific?

In the late 1990s, I cofounded Versant Ventures, a health care-focused venture capital firm. The company has raised four sizable funds ($1.6 billion under management) that we invest in health care companies. We are early-stage investors and have had a fairly substantial focus on the ophthalmic field, largely because of my background as an entrepreneur and executive in the field prior to starting Versant. Since forming Versant, we have invested in 14 startup ophthalmic companies. Four have been sold, and 10 remain in our portfolio (Figure 1).

Three of our investments are specifically in the field of glaucoma. The most substantial and advanced company is Glaukos Corp. (Laguna Hills, CA). The others are Transcend Medical (Menlo Park, CA) and ForSight Labs LLC (Menlo Park, CA), which is a punctal plug drug-delivery project that QLT Inc. (Vancouver, British Columbia, Canada) acquired and is developing.

In basic terms, how do venture capital firms work?

We raise capital from investors (called *limited partners*) typically to create a sizeable fund. Then, we try to find companies in which to invest that have certain characteristics—in our case, early stage and with a disruptive technology focused on a very large market opportunity. By disruptive, I mean a novel technology or intervention that will allow surgeons to treat a disease better, earlier, or more cost effectively than in existing practice.

We invest on average $10 to $15 million per company, and we attract other venture firms to invest with us. Typically, in the medical device arena, it requires some $40 to $80 million to fund a company to develop a technology, take it through clinical studies and the FDA regulatory path and then on to the market. The timeline is often 5 to 10 years. We invest in the earliest-stage companies that may have as few as half a dozen employees and over time build them to 100 or more employees.

Market	Year Invested	Stage
Refractive/Cataract		
Intralase	1998	Sold
Eyeonics	1998	Sold
Refractec	1999	Sold
AcuFocus	2001	Clinical Dev.
WaveTec	2005	Market Dev.
LenSx	2008	Product Dev.
Retinal		
NeoVista	2002	Clinical Dev.
Second Sight	2003	Product Dev.
Neurotech	2006	Clinical Dev.
Glaucoma		
Glaukos	2002	Clinical Dev.
Transcend	2005	Product Dev.
ForSight-P. Plug	2006	Sold
General		
ForSight Labs	2005	Incubator
I-Therapeutics	2006	Incubator

Figure 1. Versant Ventures' ophthalmic portfolio.

For venture capital investments to do well, the company is sold to a leading corporation in the field, or it is taken public in order to get liquidity.

What is the current state of investment in glaucoma? Which areas are being funded?

From a venture capital standpoint, glaucoma is an attractive market because of its large size. Glaucoma has primarily been treated with pharmaceutical products, and surgical intervention has been relatively late stage. Until the past decade or so, there hasn't been substantial investment in surgical technologies to treat the earlier stages of glaucoma.

I am excited about bringing advanced technology to the field of glaucoma so that glaucoma subspecialists and ophthalmic surgeons can intervene surgically in the early and intermediate stages of glaucoma. An example of this is the iStent from Glaukos, which is pending FDA approval, I hope, prior to the end of 2009.

Many of the companies working on new surgical technologies are small. Moreover, several of the large, established manufacturers have recently undergone mergers or acquisitions. What bearing does this business landscape have on surgical innovation?

A lot of the early innovation in a field happens outside of the large, leading corporations in smaller, private companies. I view it almost as outsourced R&D. A venture capitalist and an entrepreneur with a disruptive technology can team up to try things that often might be too risky in a large corporation.

When these collaborations go well, the small companies become sizeable and may become candidates for acquisition. The leading corporations can then broaden their portfolio. I think it is a natural balance.

It seems as if current economic conditions have prompted several of the major ophthalmic manufacturers to reduce their workforce, and many of those employees appear to have migrated to smaller, start-up companies. Is that your impression as well, and what might that mean for the field of ophthalmology in general and for the subspecialty of glaucoma?

I believe that, when there is belt-tightening among the leading corporations, good people find themselves looking around a little more than they would when things are going smoothly. It encourages the fertilization of the startups with highly talented, experienced people. That is a positive side to the situation.

When companies tighten their belts, they typically cannot fund innovative technologies in a new category. Instead, they tend to direct their internal funding to support the product lines they already have on the market. A company that is a leader in cataract surgery will make sure to properly support its cataract products. It probably won't have the resources to broaden out into the field of glaucoma, for instance. That is why innovation is almost unintentionally handed off to the startup companies.

What is needed to increase investment in surgical technologies for glaucoma?

Several parameters must be satisfied in order to bring surgical innovation to the field of glaucoma. One is we need to find surgical technologies that truly make a difference at an early stage of glaucoma. The large size of the market will then merit substantial investment in such technology.

Another important factor is for surgeons to be collaborative with entrepreneurs and to be open-minded to trying earlier surgical intervention with refined or disruptive technology. I think one could question how receptive glaucoma subspecialists are to new technology. Frankly, I have found them as a group to be a bit more skeptical of and less open to new technologies than some of their colleagues in other specialties. I hope that will change over time, as they experience the value to them and their patients that is emerging from entrepreneurs and early-stage companies.

Based on your experience, what do you foresee happening in the field of glaucoma in the next 5 to 10 years?

I believe that the field of glaucoma is ripe for the development of surgical technology to help the ophthalmologist intervene earlier in the course of the disease. The fact that we now have half a dozen or more projects and companies at an early stage of development—such as AqueSys Corp. (Irvine, CA), Glaukos Corp., iScience Interventional (Menlo Park, CA), and Transcend Medical—is a good sign that capital and entrepreneurs are being attracted to this area. A number of new surgical technologies will be introduced in the next 5 years. As long as some of these are reasonably or highly successful, that will propagate the investment cycle and fuel continued innovation. ❑

Bill Link, PhD, is a managing director at Versant Ventures, which has offices in Menlo Park and Newport Beach, California. He is on the boards of ForSight Labs LLC and Glaukos Corp. Versant is an investor in ForSight Labs LLC, Glaukos Corp., and Transcend Medical. Dr. Link may be reached at (949) 729-4500; blink@versantventures.com.