



Funding a Technology-Based Company

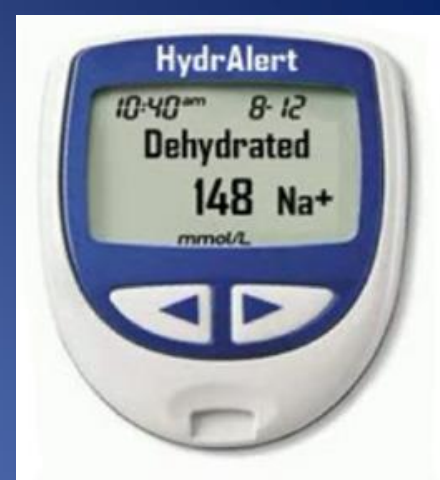
Jerrold M. Shapiro, PhD, President

- PhD Bioengineering, U-Michigan
- Successfully launched devices to diagnose glaucoma, refine treatment of diabetic retinopathy, reduce time for cataract surgery from 45 minutes to 90 seconds, remove tattoos, and treat several blinding diseases.
- Co-founder of startups Floelle Inc., Hemetrics Development Corp.

Who is this Jerry guy?

- Part of the team that built the ARPA net – 1960s
- Transitioned to medical device industry – 1969
- Cofounded BU Biomedical Engineering Dept. – 1975
- 23 years in ophthalmology – Dx & Tx devices
- Built 180 million watt laser for tattoo removal
- Taught 112 different all-day software courses
- Founder of Fem-Medical LLC - 2002
- Cofounder of Hemetrics Development Corp – 2006
- Cofounder of Floelle Inc. - 2010

HEMETRICS aka HydrAlert



- MIT student entered 2006 Soldier Design Contest
- With mentor, interviewed Army Natick Labs docs
- During Iraq war, dehydration gets soldiers killed
- Measured dehydration via serum sodium ion concentration
- Won Army Directors Award, MIT \$100k semifinalist 2006, 2007
- **VCs wouldn't fund it** because war might end soon
- Pivoted, save nursing homes money on dehydrated patients
- **VCs wouldn't fund it**; they don't care about old people
- Pivoted, use to adjust dehydrating drug dose at home for patients discharged with congestive heart failure, CHF
- 800 pound gorillas escaped clinical lab, took our home market
- Closed the company in December 2007



Let's incontinent women be free to enjoy life without worry

- Houston medical assistant had first device concept
- She and I cofounded medical device company – 2010
- Tried raising nondilutive financing – SBIR, contests
- Too early for angel investors
- Raised seed round, invented next gen product – 2013
- No animal model, built *in vitro* model, tested ok – 2014
- Raised \$50k, built mold, made & tested devices – 2015
- Raised \$50k, ran simulation, refined & tested design - 2016
- Raising \$125k for clinical feasibility study – 2017
- Raising \$1.1 M to get to regulatory approval & sales

Lessons learned about VCs

- The company must be sold within the duration of their fund for them to make money, limiting their timeline
- As most startups fail, they need to compensate by getting a 10X return on those that succeed
- Many VC firms failed in 2008, leaving less staff. The number of investments was reduced while the total size of the fund remained the same, so the minimum investment per startup increased from 0.5 to several million dollars, taking VCs out of seed stage investments
- VCs invest money from stable sources, like pension funds, so are risk averse
- VCs may put their least experienced new hire on your board

Lessons learned about Angels

- They are often motivated by more than money
 - they like to be with bright productive entrepreneurs
 - they want to be part of doing something good for the world
- They invest in groups called syndicates
 - one group does the due diligence, the others trust them
 - there can be a herd mentality; no one wants to be left out
- They can provide advice and connections
- In recent years, the size of their investments has increased to fill the void vacated by the VCs, making companies raising a seed round go to private investors who are not angels

Thank you!

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