

A₂Z BIONICS

Medical Technologies for Life

EMPOWERING DIABETICS TO LEAD A NORMAL LIFE

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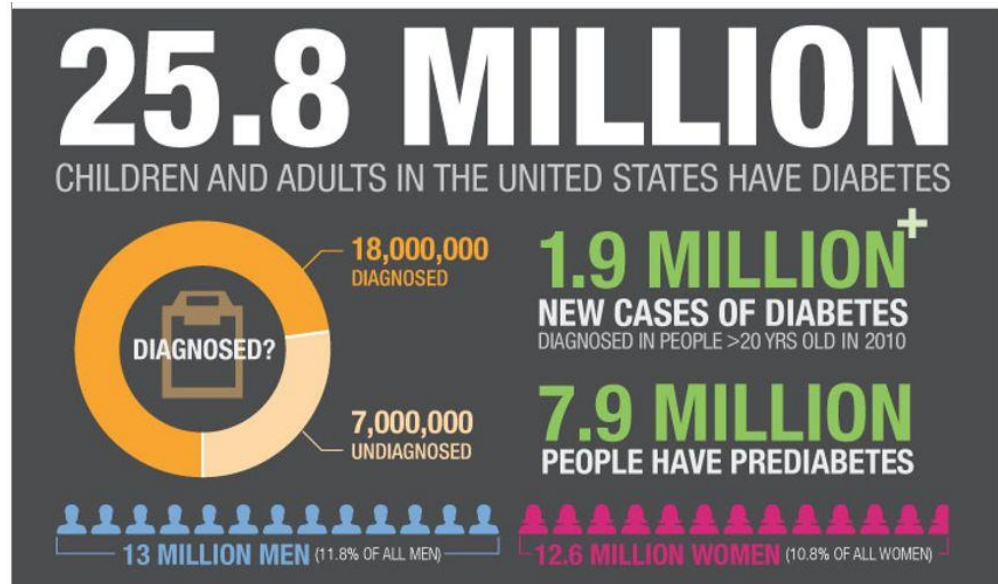
DIABETES WORLDWIDE TO RISE 55% BY 2035 - CURRENTLY OVER 300 MILLION AFFLICTED

according to International Diabetes Federation

US Statistics

“DIABETES IS THE SEVENTH LEADING CAUSE OF DEATH IN THE UNITED STATES”

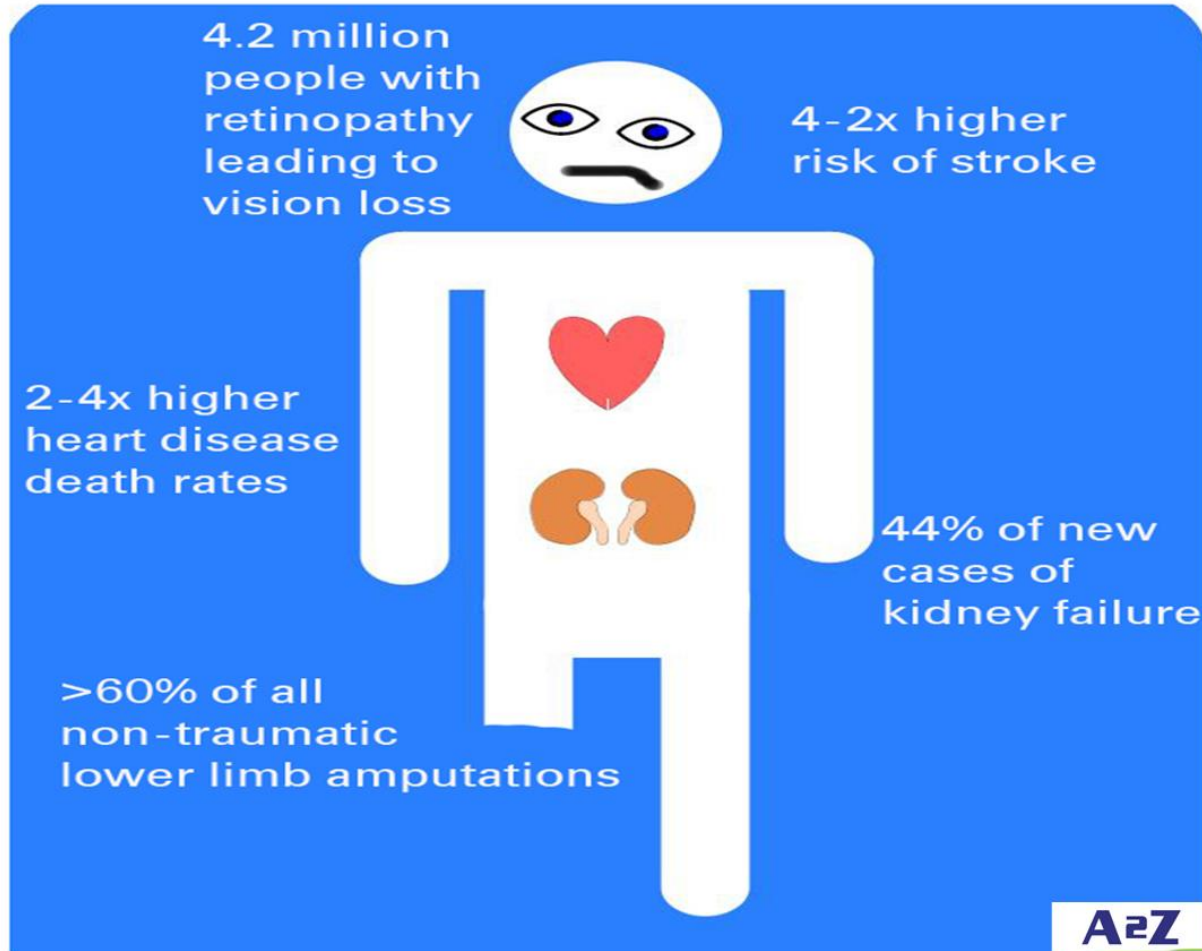
WORLD HEALTH ORGANIZATION



World Wide additional 100 million

WHY CARE ABOUT DIABETES

Diabetes: Responsible for...



A Diabetics Life Today

NO MORE !



NO NEED !



- Glucose meters/multiple skin pricks daily.
- Multiple insulin injections daily.
- Semi-automated insulin pumps with *user commanded* dosing after meal and physical exercise.
- Auto-therapeutic systems, which administer insulin (or insulin and glucagon) *under control of complex algorithms based on statistics.*

Presenting BioPan

A2Z BIONICS' Biohybrid Pancreas

Subcutaneous implant replacing endocrine part of pancreas --
Diabetics have the capability to LEAD A REGULAR LIFE

BioPan restores the body's capacity to regulate body sugar
balance



Hands Free • Needle Free • Autonomous

BIOPAN ADVANTAGE

BioPan TECHNOLOGY is

- **Self-regulating**, implantable biohybrid pancreas that treats insulin dependent diabetes by releasing not only insulin but also glucagon, somatostatin and all other pancreatic hormones according to the patient body demand.
- **Helps prevent**, stop and even reverse long-term complications, which may lead to blindness, heart, vascular and kidney failure.

Market For Diabetes Needle Free Care

- Global market for Insulin Pump growing at a CAGR of **8.4%**. (2017-2023)
- From 2017 to 2023 expected to reach **\$8.5B**
- Insulin pump price*: **\$5,000 for the pump and \$1500 for replaceable items** per one year of use. Over 4 years that is \$26,000

*<http://health.costhelper.com/insulin-pump.html>

Billable Device Health Organizations Will Love

- The estimated cost of the BioPan device implantable for 4 years is **\$5,000 per implant**. Thus, the estimated savings per 4 years is equal to **\$21,000** per patient having wearable insulin pump. Every 4 years BioPan will be replaced.
- Assuming a modest 20% Global market penetration rate, the estimated BioPan **market value will be \$1.7B** with a **gross profit exceed \$0.9 billion/year**.

Competition and Market Acceptance 1/3

Currently there is no marketed device that has the design and functionality and freedom for the user as BioPan

- The closest units in development are insulin pump/glucose monitor combinations requiring human intervention at various stages of daily use.
- The other devices employing live cells, which are being tested, do not have the perfusion system of BioPan so that the methods can't provide a long lifetime to the living cells.

Competition and Market Acceptance 2/3

Advantages of the BioPan over current wearable insulin pumps:

- No risk of skin infections at the catheter site.
- No risk of diabetic ketoacidosis from absorption problems.
- No risk of hypoglycemia.
- No need for checking blood glucose at multiple times per day.
- No need for insulin refilling every 3 months.

Acceptance: The BioPan will be readily accepted by medical community and insurance companies as a less expensive and more efficient treatment of Type I diabetes compared to insulin pump.

Competition and Market Acceptance 2/3

BARRIER TO ENTRY BY OTHERS

We have Intellectual property

- US Patent Number.: 9,101,707 B2 granted on August 11, 2015.
- European Patent pending
- More patents to be applied for

We are the only ones who have patents on a biohybrid pancreas supported by peritoneal fluid perfusion around each islet that is critical to maintaining operation of this and any similar device over any significant period of time and makes it a valuable asset for keeping diabetes under full control.

TEAM

- **Michael Piliavin**, Ph.D. - **Founder**, has over 28 years of experience in design and development of biosensors, system control units and operating software, embedded systems, ophthalmic devices, product design and testing.
- **Gregory Zeltser**, M.D., Ph.D. – **Founder**, has a broad background in internal medicine, cardiology, pathology, biochemistry, and development of three-dimensional tissue cultures, microfluidic systems, biosensors, nano-carriers for drug delivery, bio-sample separation devices, and diagnostic devices.
- **Gregory Korbitt**, Ph.D., MSM – **Scientific Advisor** is a Professor of Surgery, Scientific Director Alberta Cell Therapy Manufacturing Facility and Director Alberta Diabetes Institute Histology Core. Dr. Korbitt is a world renowned expert in treatment of Type I diabetes using islet transplantation.

BioPan: Better in Every Way

- Much lower cost than current insulin pumps.
- Self-contained with minimal to no patient involvement.
- Device will function for four years fully autonomously having three levels of the Wi-Fi safety verification of degree of control of (1) glucose concentration, (2) peritoneal fluid flow rate and (3) cells viability.
- Releases not only insulin, but also glucagon, somatostatin and other hormones regulating carbohydrate metabolism.
- Implanted under the skin, easy to retrieve in case of malfunction.

Financial Overview and Funding

We are currently in seed stage and seeking investors.

Series Seed **CURRENT** :

Purpose: Design, assembly and demonstration of the proof of concept with *in vitro* experiments.

Amounts: \$290,000

Period of performance: 9-12 months

Deliverable: Data on the prototype performance and design generation.

Additional funding stages will be needed

BUSINESS MODEL

- **For manufacturing** BioPan, we will rely on third-party contract manufacturers
- **Sales and Marketing**
 - We choose **to partner** with large biotech or pharmaceutical companies for sales and marketing. If applicable, develop our own sales force to market the BioPan both inside and outside of the U.S. We plan to obtain CE Mark for sales in the European and other markets.
 - **Sublicenses.** We may, in the future, decide to grant sublicenses for certain applications of our technologies.

IN SUMMARY

- BioPan is a trailblazing revolutionary device.
- Diabetes is a multibillion dollar business and BioPan has the potential to reward early investors with large multiples of their investment.
- Our goal is to be the number one worldwide provider of treatment for diabetics that normalizes their life.

THANK YOU

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