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Ziptek LLC

Business Plan Summary

Original
2012
Revised
October
2013
Updated
2015
November

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**All November 2015 updates are in blue. The Table of contents are in blue; this does not mean update!- if a subsection within the section is highlighted in blue- these have updates. If the subsection title is in black then there is no updated material added. The blue text throughout the Business Plan is the material which has been -updated-added- as of November 2015. Additionally, up-to-date art, photos and devices are found ONLY in the Executive Summary and on the webpage at www.ziptekglobal.com.*

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Executive Summary

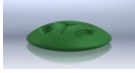
Introduction

Ziptek LLC (the “Company”) is a Sarasota, FL-based medical device company that has developed what Ziptek believes to be the next generation state-of-the-art tissue repair and attachment devices. These knotless tissue repair solutions allow for rapid and easy repair in minimally invasive surgical procedures where the surgeon is working in small spaces or through small incisions using an arthroscope. The ZipE® device allows the surgeon to repair the tissue without having to tie knots in tight spaces-quick and simple. It is a disc-surgical button also known as a suture retention device that moves in a forward direction down a suture with protuberances on it, once passing a protuberance, the disc is limited from moving in the opposite direction. Thus, as it

reaches the tissue to be repaired and is further moved along the protuberances, it creates compression on one side of torn tissue against the other—like a carpet tack or washer does with a nut and bolt- and simultaneously increases surface contact area spreading out the contact forces- knots and circular suture fixation don't do this.

ZipE® technology is patent protected.

It is ZipE® fast.



Ziptek believes its new generation, patent-protected, knotless ZipE® repair and attachment solution devices allow for surgical simplicity, efficiency, and accuracy for soft-tissue repair. These solutions also reduce operating time and eliminate human variance found with knot tying, thus removing one variable that can cause failure of repairs.

For rotator cuff repair, which is Ziptek's entrance market, ZipE® facilitates the rapid and easy application of tissue fixation, allowing the surgeon to perform various suture configurations without having to tie a knot. ZipE® suture-captures allow for greater surface contact area for tissue attachment and healing than knots, and can accommodate direct and indirect tissue fixation. The "tension-band" effect, as the tendon contracts, causes the surgical button(capture) to compress the tissue, increasing contact surface area and is similar to a transosseous surgical repair, and should lead to better outcomes.

ZipE® can be used for medial row fixation in double row repairs, maximizes lateral row fixation by using a standard cancellous screw(ASTM) configured with ZipE® patent-pending suture-bridge design, and allows sutures to be passed through the screw after the screw is set, allowing for horizontal mattress repairs and emulates a true trans-osseous rotator cuff repair.

ZipE® bone anchors come with two sutures and a suture shuttle, each suture provides two tissue fixation points with a ZipE® suture-capture. The majority of competing devices would require two devices to achieve 4 tissue fixation points and don't come with this surgical button

But! This is just the rotator cuff repair market ~ 520,000 reimbursed cases per year in the United States, alone.

In some instances ZipE® , could for many surgical procedures, replace the surgeon's knot as the technology for tissue repair is the same for all tissue- introducers would vary.

Ziptek's founder, Dr. William F. Bennett M.D., is a highly-regarded, innovative and widely-published orthopedic surgeon with 25 years of experience in the field. He has been developing the ZipE® technology over the past 25 years to address- starting with an idea in 1995- to launching its commercialization process in 2010- and now expecting FDA approval for its implantable device by June, 2016.

Dr. Bennett believes that Ziptek's *technology development platform* has the potential to completely revolutionize today's soft-tissue repair industry and could change the way minimally-invasive surgical tissue repair is performed for years to

come - surgical buttons(captures)- classified as a suture retention device by the FDA, either require a knot to be tied over the button or a cleating of the suture to take place- while the ZipE® disc- “capture” locks the tissue down with its patented technology.

The US market alone for orthopedic soft-tissue repair already exceeds \$2.1 billion. However, given Ziptek’s technology platform and multiple patent pending applications and devices, ZipE® tissue repair and attachment solutions could ultimately address a broader orthopedic products market in the U.S, and furthermore, penetrate across surgical disciplines and plans to expand globally.

Why ZipE®!

➤ ZipE® suture-capture-resorbable

Finite Element Analysis (FEA) design parameters

- create a capture that provides for more surface area at the tissue fixation point than a knot
- avoid suture crimping or pinching- preventing slippage-seen with many competing devices
- allow the suture to travel in the “Go” direction with 1/5th the force of the “No-Go” Direction
- allow for the creation of simple knot, horizontal mattress, double row suture configurations
- bench testing confirms at least a minimum of 2:1 No-go to Go forces.

➤ ZipE® suture-capture -resorbable

- comes with two sutures and a suture relay and each suture has two tissue fixation points as opposed to one with traditional knots, allowing for 4 tissue fixation points per device.

➤ ZipE® suture-capture

- can be placed either on tissue, bone or both

➤ ZipE® suture bridge screw design

- allows for sutures to be shuttled through the screw after it has been placed into the bone allowing surgeons to perform horizontal mattress configurations and create a transosseous equivalent repair.

➤ ZipE® screw and plug-titanium and biocomposite

- used for medial and lateral fixation in double row rotator cuff repair
- strong, cancellous titanium bone screw-(ASTM-blade standards)-resists pull-out better than plug anchors, yet ZipE’s biocomposite plug allows for osteoconduction and osteoinduction.

➤ ZipE® screw driver

- Structure and method-*patentable WIPO-has a countore and acts as the capture pusher-allowing the capture, when placed on the bone side, to rest below the surface of the bone

Sales and Marketing

As FDA clearance is expected by early Q3, 2016, Ziptek intends to enter the soft-tissue repair market with an initial focus on rotator cuff repair devices. Ziptek has numerous foreign “state”, individual and distributor groups interested in the ZipE®product- some requesting exclusivity.

With FDA approval, the product can be sold, by purchase order, to numerous foreign countries that accept FDA regulatory approval. This can provide for early revenue; for instance, the public health system in Mexico- the minister of health and the head of the public hospital have expressed a direct interest and believe that there will be quick surgeon adoption by their orthopedic surgeons.

Concurrently, efforts include; the build out of distribution channels and surgeon training. Use of proceeds with this additional funding will be heavily weighted to strategic alliances, sales, marketing, and Ziptek envisions a day when patients ask for a ZipE® repair- see ziptekglobal.com.

The Company's initial focus is on the shoulder. Once successful commercialization of these initial shoulder devices is achieved, management intends to introduce other devices to the market from the Company's technology development platform.

IP Background

5 issued patents

5 Pending US patents

5 pending different international patents-deemed patentable by WIPO/PCT

- 4 filed in over 38 countries

Numerous work-around patent applications

Original additional patent material-"in-play"

The Opportunity-

Updated- Nov. 2015

Ziptek first funded in March 2014 and is seeking a member or members to invest \$8,000,000 USD for 20 percent of the company. Following is a summary of advances since the first round.

Utility Patents-

2 new United States Patents issued.

A third expected by the end of 2015

Design Patent-

screw

Patent Pending-

screw, driver, method and suture beads- deemed patentable-WIPO/PCT

Patent Work-arounds, divisionals and provisionals filed

Products

Commercial ready

ORDERING INFORMATION

KNOTLESS TISSUE REPAIR AND ATTACHMENT SOLUTION DEVICES

PRODUCT #	DESCRIPTION
*AA-6550-PLC	6.5 MM RESORBABLE POLYMER CAPTURE, 5.0 MM TITANIUM SCREW, #2 USP SHIMMIPPE BRAIDED SUTURE (QTY. 2), WITH NITINOL WIRE SHUTTLE AND DRIVER
*AA-6545-PLC	6.5 MM RESORBABLE POLYMER CAPTURE, 4.5 MM TITANIUM SCREW, #2 USP SHIMMIPPE BRAIDED SUTURE (QTY. 2), WITH NITINOL WIRE SHUTTLE AND DRIVER
*AA6-6550-S	6.5 MM RESORBABLE POLYMER CAPTURE, 5.0 MM PLD/LA/ETCP PLUS, #2 USP SHIMMIPPE BRAIDED SUTURE (QTY. 2), WITH NITINOL WIRE SHUTTLE AND DRIVER
*AA6-6545-S	6.5 MM RESORBABLE POLYMER CAPTURE, 4.5 MM PLD/LA/ETCP PLUS, #2 USP SHIMMIPPE BRAIDED SUTURE (QTY. 2), WITH NITINOL WIRE SHUTTLE AND DRIVER
*AA7-6550-S	6.5 MM RESORBABLE POLYMER CAPTURE, 5.0 MM PLD/LA/ETCP PLUS, #2 USP SHIMMIPPE BRAIDED SUTURE (QTY. 2), WITH NITINOL WIRE SHUTTLE, DRIVER AND PUNCH
AA7-6545-S	6.5 MM RESORBABLE POLYMER CAPTURE, 4.5 MM PLD/LA/ETCP PLUS, #2 USP SHIMMIPPE BRAIDED SUTURE (QTY. 2), WITH NITINOL WIRE SHUTTLE, DRIVER AND PUNCH
PRODUCT #	DESCRIPTION
*BB91-S-4	CAPTURE HOLDER WITH 4 PCS OF RESORBABLE POLYMER CAPTURES
PRODUCT #	DESCRIPTION
*C3-0234-UPC	36" #2 USP SHIMMIPPE BRAIDED SUTURE
*C4-2040-NI	40" NITINOL WIRE SUTURE SHUTTLE
*C2-50155-TI-2	5.0MM TITANIUM SCREW - QTY. 2
*C2-45155-TI-2	4.5MM TITANIUM SCREW - QTY. 2
*MC2-50155-PLT-2	5.0MM PLD/LA/ETCP PLUS - QTY. 2
*MC2-45155-PLT-2	4.5MM PLD/LA/ETCP PLUS - QTY. 2
*C7-50250-SS	REUSABLE ASTM STAINLESS STEEL PUNCH SHAFT FOR 5.0 MM PLUS
*C7-45250-SS	REUSABLE ASTM STAINLESS STEEL PUNCH SHAFT FOR 4.5 MM PLUS

Bargained:

*For very compromised tissue, ZipTek recommends the 5.0mm titanium screw and if a biocomposite plug is required, use the 5.5mm plug.

** The 5.0mm titanium screw and the 5.0mm biocomposite plug should be placed through a "stab" incision in the skin and once seated the sutures should be sheathed out another portal or second stab incision. Following a cannula can be placed through the stab incision and the sutures retrieved back out through the cannula. The driver for these two methods will fit through an 11.5 or 6.5mm hole the sutures will not.

*** 4.5mm titanium and 5.0mm biocomposite screw fit cannulas with I.D. of 6.5mm

**** Capture holder: when loading each capture onto the sutures, avoid using the clamp area created by each pair, as this weakens the nitinol loop.

***** The end of the driver is sharp and the driver must be kept parallel to the sutures when pushing the capture down the suture - it takes a little force - slowly - but slowly - increase pressure and it will move at 7-8 lbs.

This material is intended for the ZIPTEK, LLC Sales Force only. It is not intended to be redistributed without the express written consent of ZIPTEK, LLC.

ZIPTEK | Tissue Repair and Attachment Solutions
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Phoenix, AZ 85021-1100
www.ziptekglobal.com

WWW.ZIPTEKGLOBAL.COM

FDA approval

early 3rd quarter 2016.

Patentable material-WIPO/PCT filed

United States
Europe
Mexico
Canada
Columbia
Israel
Japan
Australia
China
India
Singapore
New Zealand

Manufacturing

TriRX Medical- Naples, FL.
screw, screw driver

Medical Murray- Lake Zurich, Illinois and Charlotte, North Carolina
Plugs, captures, assembly, packaging, sterilization 13485 certified

Galaz Biomedical and Ziptek Mexico Sa De Cv, Hermosillo, Sonora, Mexico
Orings and punches

Ziptek Mexico Sa De Cv-

grant ready

Professional molds

completed

Packaging

completed

Biomechanical studies

completed

Raw material supplier agreements

in place

FDA consultants

Shayne Gad- Toxicologists- Raleigh, North Carolina

Janice Hogan-Attorney-Philadelphia, PA

Andrea Siller-Engineer- Hermosillo, Sonora, Mexico

Medical Murray

Testing-ongoing

Packaging

Sterilization Validation

Biocompatibility

Shelf life

real time

accelerated aging.

Surgeon Training and introduction

Individuals

United States and United Kingdom/Europe

Grant partners identified

National and International Interest

Distributors

Surgeons

Mexican public health system

interested in product for all their public hospitals

public health care sector 100 percent covered

circa-120 million people

Ziptek's-use of proceeds

*initial funding was aimed at FDA approval "milestone"-June 2016

*this funding round- aimed at

build-out of personnel

executive roles

sales

distribution

marketing nationally and internationally

continued IP support

regulatory role-out

orthopedic meeting exposure

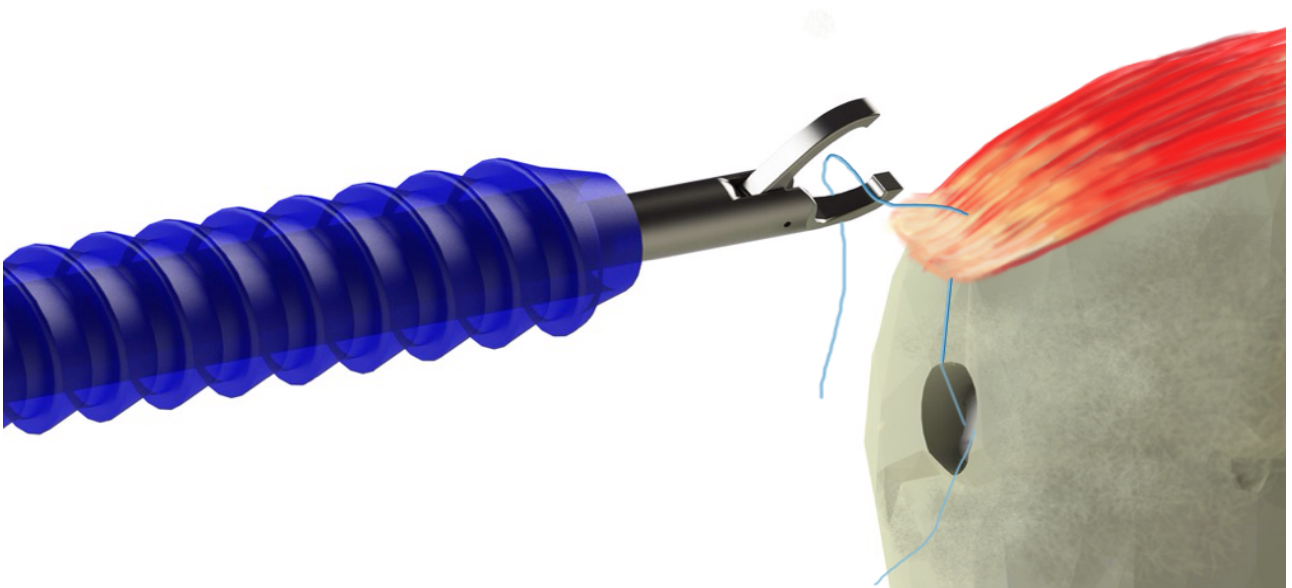
introduction of further surgical applications

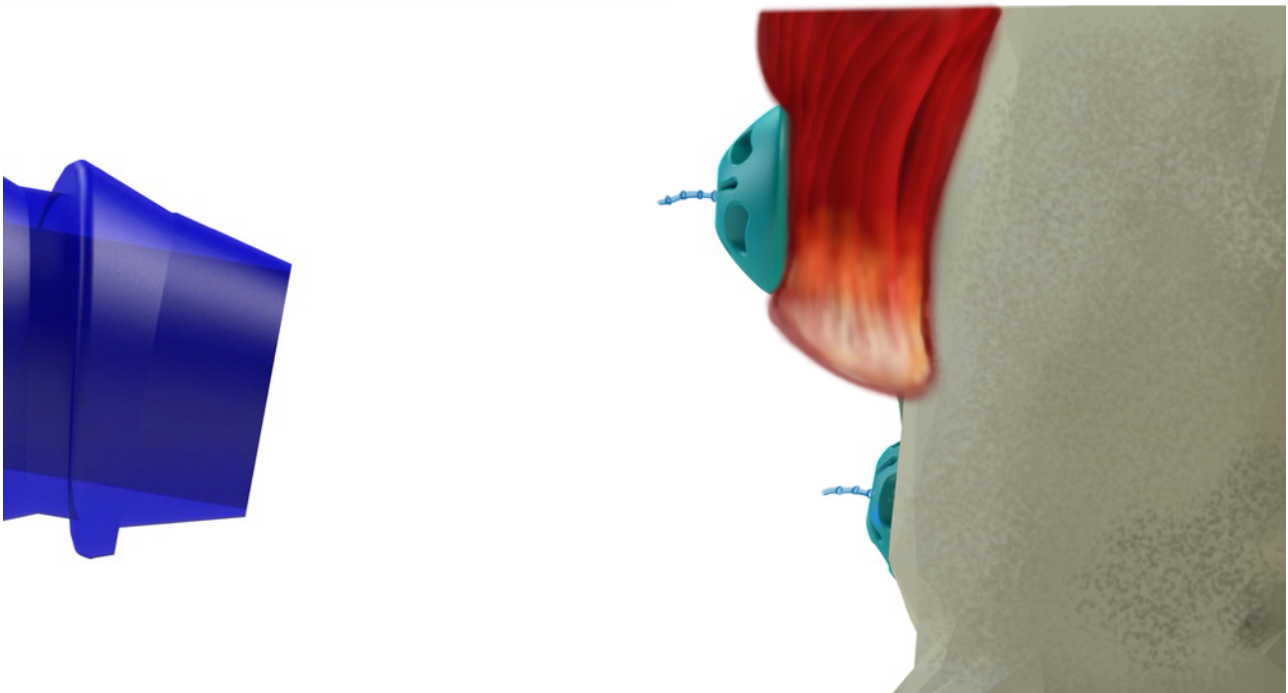
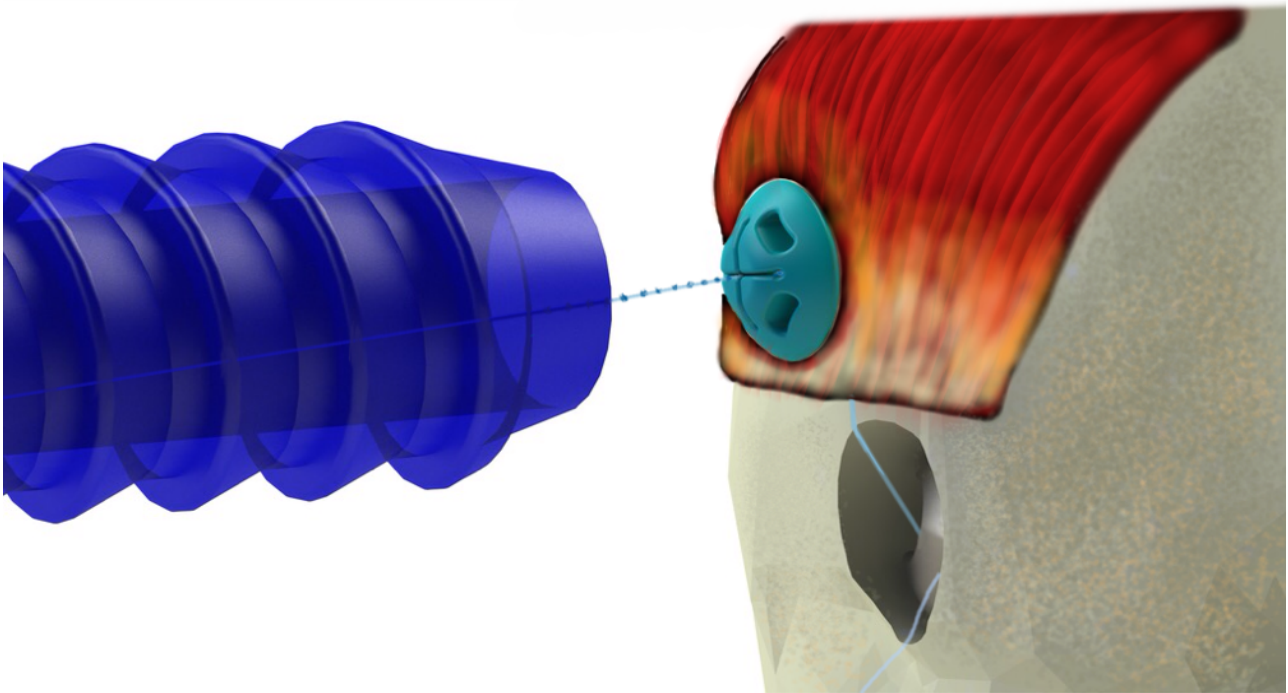
further biocompatibility testing with each new design

further 510k applications

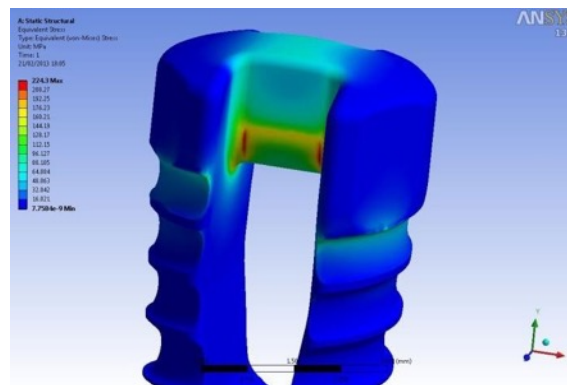
CE mark

Illustrative Example: Rotator cuff tear – attach tendon to bone





Cadaveric Example



Packaged Device



Which repair would you choose?

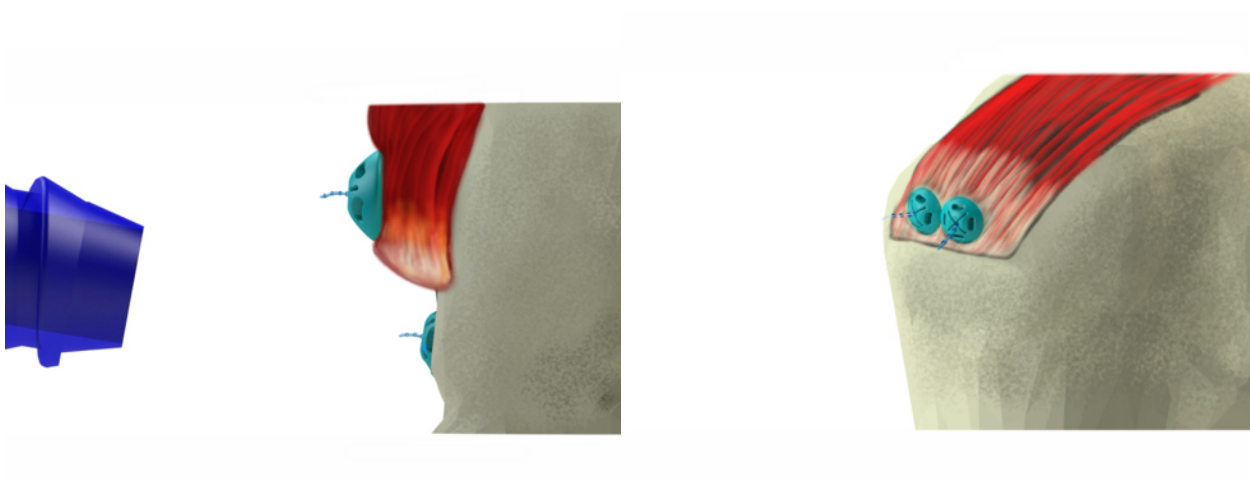
Traditional knot repair

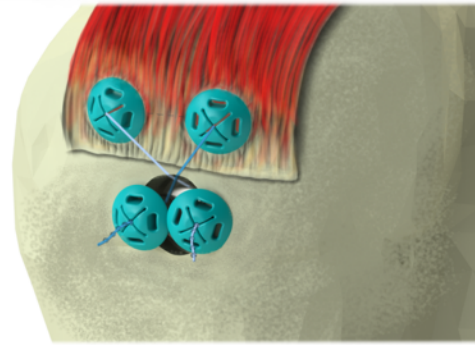
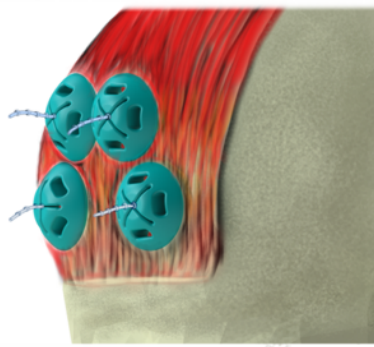


Newer Knotless Repair

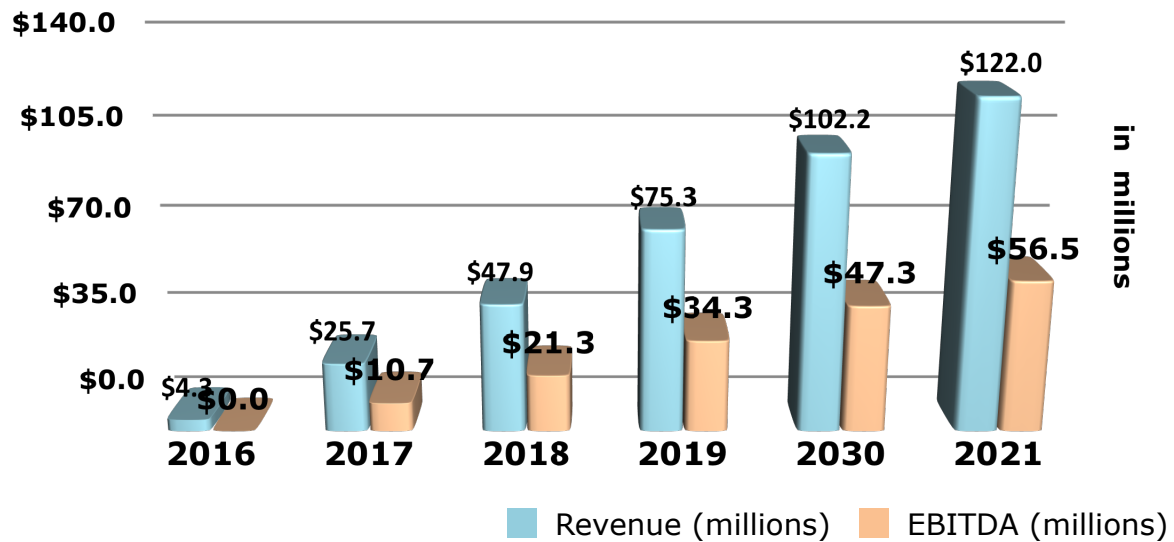


Or a the state of the art-
ZipE® repair





Revenue and EBITDA Projection



www.ziptekglobal.com

<http://www.heraldtribune.com/article/20130922/ARTICLE/130929900/2413/BUSINESS?Title=Betting-on-a-surgical-breakthrough>

http://www.bennettorthosportsmed.com/images/Bennett/pdf/Business_Weekly.pdf

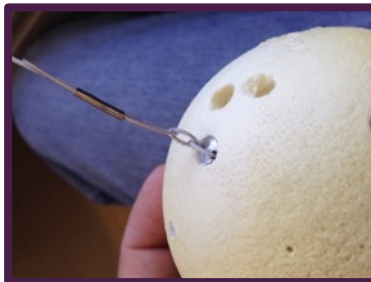
2. Company Overview

Ziptek has developed and intends to market superior implantable medical devices for soft-tissue repair and reconnection or for holding tissue to implantable medical, veterinary or dental implantable devices (i.e. reconnecting a tendon to a bone or tissue to an implant). The Company aims to market and distribute these devices through multiple distribution channels, domestically and foreign- in time.

Ziptek is currently building out its technology development platform which is centered around its **ZipE[®]tissue repair and attachment solutions** with its patent-protected technologies -(three US patents granted forming the backbone of the Intellectual property-three in U.S office action -two in European Union office action -two in Mexican office action -one submitted to WIPO—one pending U.S. office action -and one pending WIPO.)- The Company is seeking to establish its corporate identity in the medical device field as a company that provides products of uncompromising quality and device innovation.

Ziptek intends to initially enter the shoulder market with **ZipE[®] repair and attachment solutions** for rotator cuff repair. **ZipE[®]tissue repair and attachment solutions** could, *in some instances, replace the surgeon's knot by eliminating the variance of different knot types, the variances of different surgical performance and the variance of a surgeon due to fatigue and other factors.* **ZipE[®]tissue repair and attachment solutions** perform the same way each time holding tissue with twice the strength of a simple suture and with 25 percent more strength than a horizontal mattress stitch, all the while using a disc creating a bigger surface area for tissue contact and repair.

In the shoulder **space** we begin with -(focusing on)- adding a knotless solution for all rotator cuff repairs. Because medial row repairs require knot tying for fixation in double row techniques. **ZipE[®]** fixation provides for the only knotless fixation for the medial row –presently there are none on the market. It can be utilized with its own bone anchor **ZipE[®]tissue repair and attachment solutions** bone anchor -patent pending- which tests 80 percent higher for pull-out strength than comparable bone anchors in 10 pcf sawbone. Additionally, it lends itself to devices on the market – being utilized with many knotless allowing other companies to add a fixation method for medial row fixation- or for converting many “knot tying” bone anchor devices into a knotless system.....corroboration with the companies in this space opens the door for multiple licensing agreements. Also, it introduces a better a knotless device solution specifically designed for the repair of the subscapularis tendon. This tendon is rarely repaired due to the current lack of suitable devices to successfully perform the operation with optimal hold, as the footprint of the subscapularis tendon is more amenable to a button fixation than a knot or strap-type repair secondary to the large surface area that needs to heal. Most knotted and knotless systems have the contact area and compression simply at the edge of the tendon. The subscapularis is rarely repaired as the technical challenge is great. With the addition of **ZipE[®] tissue repair and attachment solutions** or **ZipE[®]-Subscap**, the technique is greatly simplified and would allow even open surgeons to perform arthroscopic subscapularis repairs.



Current Concepts With Video Illustration. Why Repair the Subscapularis? A Logical Rationale

Jonathan B. Ticker, M.D., and Stephen S. Burkhart, M.D.

Abstract: Tears of the subscapularis tendon are now more frequently recognized and are often associated with tears of the posterosuperior rotator cuff tendons. This has been facilitated

by arthroscopic approaches, and repair techniques have been developed. In the setting of a rotator cuff repair, when a subscapularis tendon tear is found in continuity with a supraspinatus tendon tear, it is essential to recognize how the repair of both tendon tears can influence the overall security of the entire repair construct. When a repairable subscapularis tendon tear is left unrepaired, the function of the subscapularis muscle will be lost. In addition, the posterosuperior rotator cuff tear will be more difficult to repair, and it will be less securely repaired. When the subscapularis tendon is repaired initially, the posterosuperior rotator cuff repair can be more easily and more reliably achieved.

Arthroscopy: The Journal of Arthroscopic and Related Surgery, Vol 27, No 8 (August), 2011: pp 1123-1128

The Company's unique, patented or **ZipE® tissue repair and attachment solutions** device, creates a technique which is greatly simplified allowing open surgeons and other arthroscopic surgeons who presently don't perform arthroscopic subscapularis repair to perform this technique by adding the simplified **ZipE®** subscapularis repair, which in return enhances the financial modeling for volume of devices per repair encounter -as subscapularis tears are found in a high number of rotator cuff tears and are not being fixed. Ziptek could capture very high market share because it would have the only knotless **ZipE® tissue repair and attachment solutions** device designed for holding greater surface tendon area for healing. It enables surgeons to treat many different injuries and has identified 16 orthopedic applications related to its capture device and 4 with which its initial bone anchor capture solution could be applied without changing the engineering, or manufacturing process.

2.1. Soft-Tissue Repair Overview

The repair of soft tissue to other tissue, namely bone, usually requires an anchor which is typically seated in the bone. A suture, thread-like material used to sew tissue together, is either permanently attached to the anchor or slides through an eyelet in the anchor. With "knotless" anchor-suture constructs there are various mechanisms engineered to avoid the need to tie a knot. The knotless anchor-suture construct must be able to withstand ultimate tensile stress, ultimate shear forces, plastic deformation during cyclic loading of the materials and creep or displacement of the system (the entire knotless anchor/suture construct is known as the system)¹.

2.2. Soft-Tissue Repair – Current Issues

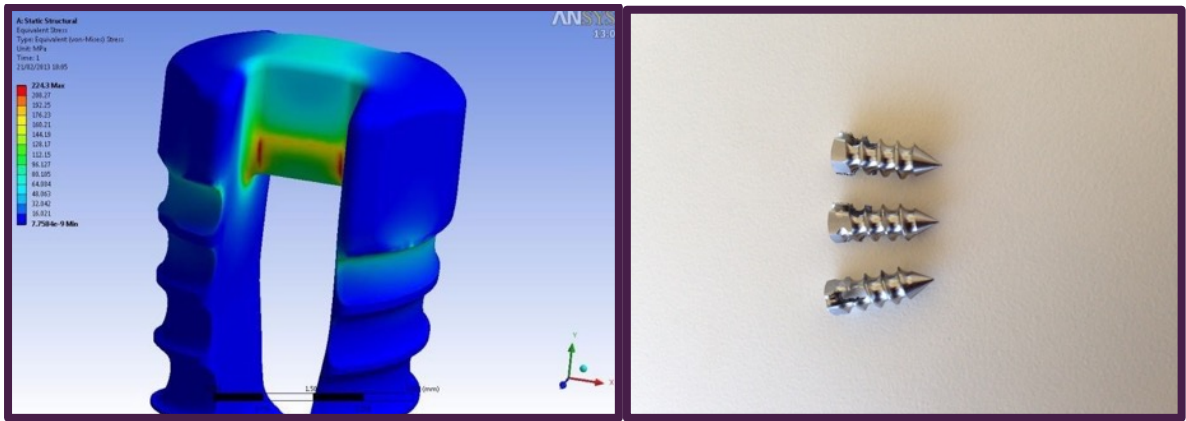
The Anchor

Anchors can either be "force-fit" or "form-fit":

- Force-fit anchors are either screws or press-fit – these types of anchors are pressed into the bone and the blades of the bone anchor provide the anchor's holding strength;
- Form-fit anchors undergo a deformation of their shape when inserted into the bone and expand to provide additional holding power.

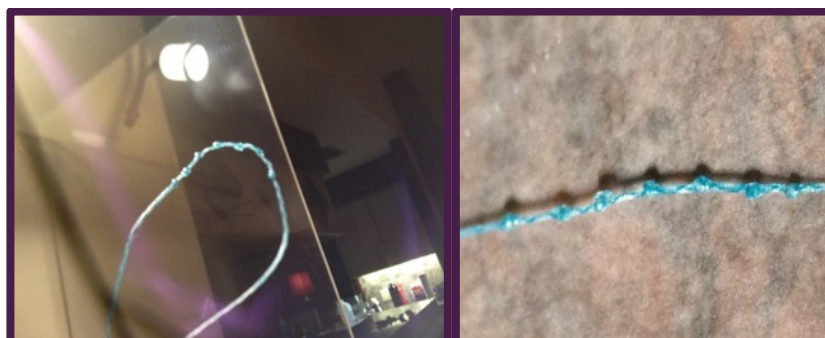
Overall, screws provide better pull-out strength than the press-fit anchors, especially in soft cancellous bone. **ZipE® tissue repair and attachment solutions** bone anchor with **suture bridge** -patent pending- exceeds many commercially available bone anchors by 80 percent when tested in 10 pcf sawbone-a synthetic model that represents soft bone.

¹ Finite Element Analysis has been performed using HDPE by biomedical engineer PhD



The Suture

Typically, the suture requires a knot to hold tissue together. Most knotless constructs, available on the market today for orthopedic soft-tissue repair, crimp or crush the suture between two surfaces (typically of the anchor), using friction to hold it in place. It has been documented that many of these devices can slip, and there is also the potential of ultimately weakening the suture-allowing early failure and contributing to poorer outcomes. Ziptek's solutions knotless suture is engineered with protuberances mechanically to engage with a secure fixation without material properties. The first over-hand knots, equi-distant engineered a manufacturing and a second generation **ZipE®** tissue repair and attachment device will used and sized. We have process (patent-pending) tissue repair and attachment solution to create a beaded suture using UHMWPE braided sutures with biocompatible epoxy-commercially available on the market.



Other Existing Knot-Less Constructs

"Knotless" refers to the mechanical fashion within which the suture is held in place. The main knotless solutions include an interference (friction) fit between the suture and the screw and bone or within the device itself. Other knotless solutions include prefabricated sliding knots and a "Chinese finger trap" construct. To begin achieving system construct strength, the anchor must have the high pull-out strength which, as stated earlier, is found with screws as opposed to plugs because of their wide and numerous blades.

One knotless mechanism for holding the soft-tissue to bone calls for the suture to pass through the tissue and, as the screw is placed into the bone, for the suture to be pinched between the bone and the screw. To prevent the screw blades from cutting the suture or weakening it, these screw constructs are usually cylindrical and not conical with short, blunt blades and with the exception of a few are still push in as a plug rather than screwed in like a screw. Therefore, due to the inferiorly designed plug (repeated studies show that conical screws are preferable to cylindrical screws), these knotless screw constructs have inferior system strength because of the compromised pull-out strength.

A second knotless mechanism employs an interference type of friction hold by having the suture pinched on the inside of the anchor. There are two ways in which this happens:

1. The outer sleeve of the anchor is seated into the bone and then an inner cylinder is slid down to jam into the inner part of the outer sleeve. The suture is then caught in between the outer sleeve and this inner cylinder; and
2. The inner cylinder is seated in the bone and an outer sleeve is slid down over the cylinder which then captures the suture between the cylinder and sleeve.

Disadvantages of many competing Knotless Constructs

Firstly, while the pull-out strength for some of these systems can be reasonable, the interface between the cylinder and sleeves may allow for creep (slippage) of the suture between the cylinder and the sleeve or failure do to compromise when cyclic loading is applied.

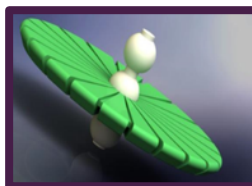
Karl Wieser, M.D., Mazda Farshad, M.D., M.P.H., Lazaros Vlachopoulos, M.D., Kurt Ruffieux, Ph.D., Christian Gerber, M.D., F.R.C.S., and Dominik C. Meyer, M.D. Suture Slippage in Knotless Suture Anchors as a Potential Failure Mechanism in Rotator Cuff Repair. *Arthroscopy: The Journal of Arthroscopic and Related Surgery*, Vol 28, No 11 (November), 2012: pp 1622-1627

Secondly, some of these knotless constructs use a form-fit anchor which only deploy a certain distance when inserted into the bone. These types of constructs have the risk of causing the entire system to creep if the anchor does not sit well in the bone.

There have been FDA reports of failure with these types of devices.

http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfmaude/detail.cfm?mdrfoi__id=1200208

More importantly, failure rates for rotator cuff repair range from 30 percent to 70 percent. While most surgeons feel that this may be evidence that the device may be the aspects of the device are prudent and to take market share and with ZipE® variance of knot tying, surgeon and "sleep-less" nights for expert engineered suture capture interface.



related to soft tissue failure, there is culprit. So efforts to optimize all allow for innovative new techniques tissue repair and attachment solutions the performance, knot configurations knot-tiers is removed with ZipE®

J Bone Joint Surg Am. 2008 May;90(5):1034-42. **Failure analysis of rotator cuff repair: a comparison of three double-row techniques.** Zheng N, Harris HW, Andrews JR.

SourceCenter for Biomedical Engineering Systems, Department of Mechanical Engineering and Engineering Science, University of North Carolina at Charlotte, 9201 University City Boulevard, Charlotte, NC 28223-0001, USA. nzheng@uncc.edu

BACKGROUND: The use of suture anchors has made arthroscopic repair of the torn rotator cuff possible. However, objective evaluations have demonstrated high failure rates. The goal of this study was to compare the modes and rates of failure of two double-row arthroscopic repair techniques and the mini-open double-row technique.

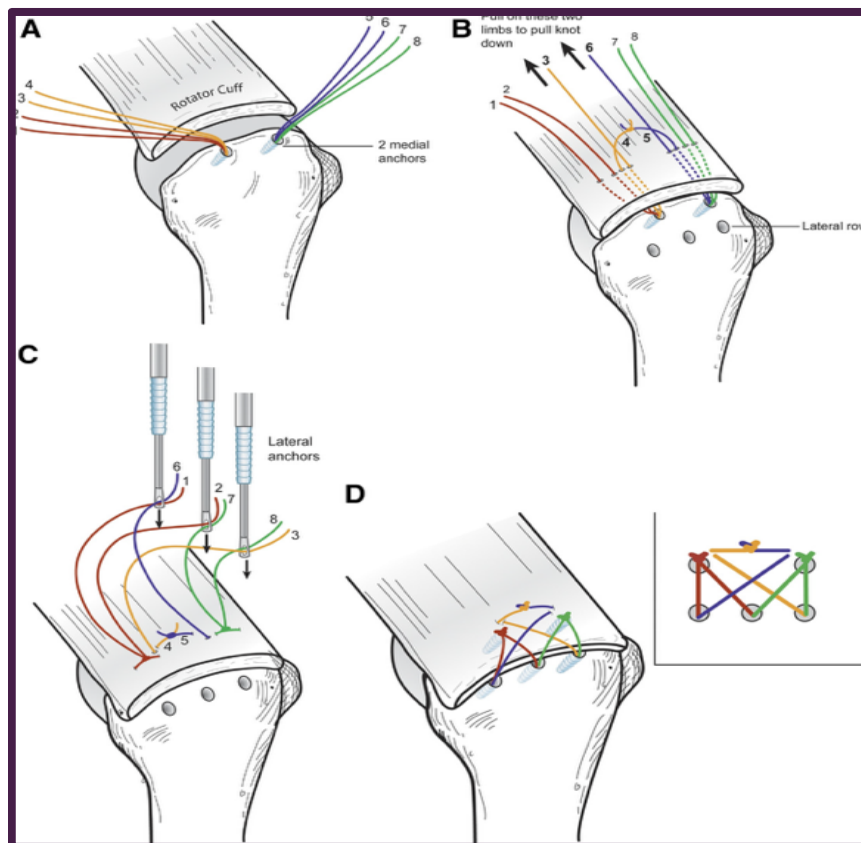
METHODS: Thirty pairs of fresh-frozen human shoulders were used in this study. The specimens were prepared to simulate a cuff defect, which was then repaired. The repairs were done with three different lateral row techniques (Mason-Allen sutures passed through transosseous tunnels, the knotless anchor method, and the corkscrew suture anchor method) with the same medial row technique (corkscrew suture anchors). Cyclic tests were conducted at 33 mm/s with a cyclic force of 10 to 180 N. Specimens were cycled to 5000 cycles or to failure as defined as formation of a 10-mm gap at the repair. Failure rates and failure modes of the suture, tendon, and bone-anchor interface were compared for the medial and lateral rows and among the three techniques.

RESULTS: Fourteen of the twenty repairs made with the transosseous technique, fifteen of the twenty repairs made with the knotless anchor technique, and ten of the twenty repairs made with the corkscrew anchor technique survived 5000 cycles. The failure rates for the medial row were not significantly different among the three repair techniques. For the lateral row, there was a significant difference ($p < 0.01$) in the rate of failure among individual transosseous tunnel-suture complexes (32%), knotless anchor-suture complexes (48%), and corkscrew anchor-suture complexes (75%), with a similar suture-tendon failure rate for all three techniques. The tendon and repair complexes with corkscrew suture anchors had the smallest displacement both at the first and the 5000th cycle.

CONCLUSIONS: Although repairs made with the anchor techniques had higher individual failure rates, the survival rates for the anchor techniques at the 5000th cycle were similar to that for the transosseous technique during cyclic tests. Suture failure was the main failure mode for the transosseous technique, whereas failure at the anchor-bone interface was the main failure mode for the anchor techniques.

<http://www.ncbi.nlm.nih.gov/pubmed/18451396>

Further references available upon request.



Burkhart SS. Optimizing Pressurized Contact Area in Rotator Cuff Repair: The Diamondback Repair. *Arthroscopy: The Journal of Arthroscopic and Related Surgery*, Vol 28, No 2 (February), 2012: pp 188-195

Poor-Quality Rotator Cuff

Multiple fixation points

Diamondback repair

Rip-stop sutures

Poor-Quality Bone

Fully threaded suture anchor fixation

Insertion of anchors, deadmanangle

Compaction bone grafting

Buddy anchor technique

Rescue anchor technique

Cortical fixation

Burkhart SS. Arthroscopy: The Journal of Arthroscopic and Related Surgery, Vol 27, No 10 (October), 2011: pp 1409-1421

Thirdly, as noted above and from the following: [Suture Number Determines Strength of Rotator Cuff Repair. Jost PW. Journal Bone and Joint Surgery, 2012, Vol 94-A, No. 14, p1256](#), there are multiple factors that must be taken into consideration to have a successful rotator cuff repair. [Obviously the more suture fixation points there are, the better the repair.](#) This requires tying numerous knots and with a knotless device adds significant time since only the lateral row is knotless. Each knot tied, may take 3-5 minutes for the average surgeon, although with sliding knots, average time takes about 1 minute. However, sliding knots may damage the tissue when they are slid down by actually sawing through the tissue. There easily can be in excess of 12 knots in these types of repairs. Interestingly, however, the knotless devices only address the lateral row of these sutures for double row techniques. Most surgeons know that the medial row should be fixated with a knot to prevent “rip-through, as such, approximately 40 percent of the knotless approach with current devices afford a true knotless solution for each suture strand.

Following, and because of time constraints and/or difficulty, there are surgeons who do not tie the medial row. Note the term above “Rip-Stop” sutures; these sutures are placed so that the medial row sutures don’t rip through the tissue with a sawing mechanism. Burkhart has suggested that these medial row repairs need a knot to create further fixation points. Interestingly, and again most knotless devices on the market are not completely knotless when performing a double row rotator cuff repair, ~circa 30-40 percent of the device is knotless. **ZipE® tissue repair and attachment solution** technology is the perfect answer, affording the medial row a knotless fixation point, and holding power with increased surface area for better tissue to tissue approximation.

[Video Showing Rip-Through](#)



singleripthrough_WMV V8.wmv

[Video Showing Capture Stabilization](#)



button stabilization_WMV V8.wmv

**will only play in word document and not .pdf- go to website for videos-www.ziptekglobal.com*

2.3. The Solution – ZipE[®] tissue repair and attachment solution **Knotless Devices**

The ZipE[®] tissue repair and attachment solution device utilizes various types of "cable-tie" interfaces which allow for a system construct utilizing a button/capture to be utilized that management believes avoids many of the shortcomings of the above competing constructs mentioned in section 2.2.

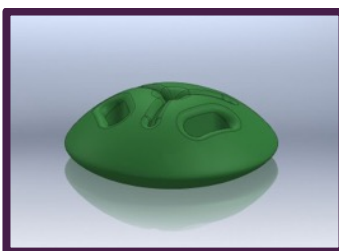
The ZipE[®] tissue repair and attachment solution bone anchor can be optimized for the best pull-out strength in both osteopenic and non-osteopenic bone because the suture-anchor interface is not dependent upon press-fit between the bone and screw or between a cylinder and sleeve as the suture is at risk when crimped with friction in these anchor designs.



In addition, the suture/capture construct can be utilized with any knotless device on the market for the addition of a medial row knotless solution or with any bone anchor on the market, converting it to a 100 percent knotless system. Studies have shown that knots are needed for the medial row to improve outcomes in double row rotator cuff repairs. When knotless devices are used as a completely knotless construct laterally with the medial row simply having sutures with no fixation, the suture can cut through the tendon.

Busfield B. 2 Technical Variations of Double-Row Rotator Cuff Fixation. American Journal of Sports Medicine. 2008, Vol. 36, No. 5, 901

In contrast, ZipE[®] has an interface in which there are protuberances on the suture which engage depressions found in the anchor (the capture), resulting in a construct that is not frictional but rather an **engineered mechanical construct**. The suture is engaged to the anchor in this fashion and pulled tightly in one direction with no travel backwards, meaning the **system creep** and any creep dependent upon the material ZipE[®] system optimizes pull-out creep compared with other Finite Element Analyses have capture so that the suture with minimal force ~circa 4 lbs and yet prevents backwards travel with forces that are equal to or exceed the material's ultimate tensile strength. We have achieved ratios of 5:1, "No-GO" to "Go" forces.

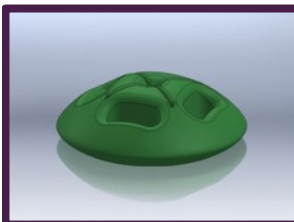


direction with no travel construct would experience **no** experienced would be solely used. Overall, this means the **strength while minimizing constructs**. Additionally, over 10 been performed to optimise the advances through the capture

Moreover, while there are approximately five competing products on the market at this time, the majority are variations of a similar general technology that crushes, crimps, provides for interference by friction. **ZipE® is a completely new technology** that stands apart from the presently existing five comparable products and should serve to compartmentalize Ziptek's technology against theirs.

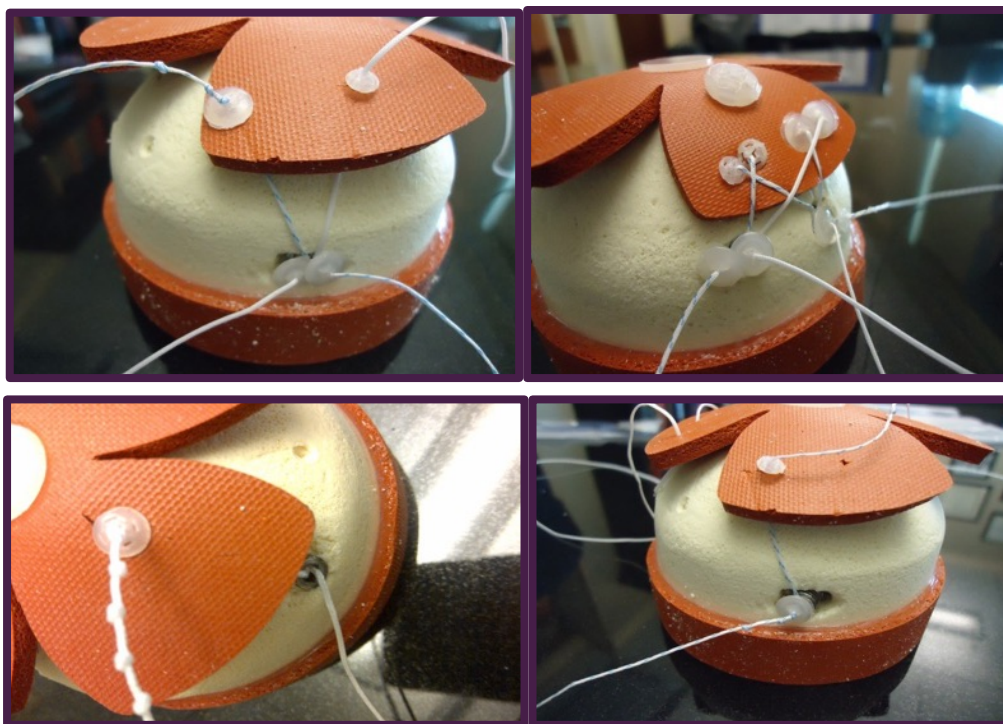
Ziptek expects the engineering of **ZipE®** to address, in an optimal fashion, all deficits in pull-out strength, creep, system displacement and fatigue failure that are not all addressed in the existing designs.

Ziptek's design is specifically designed to address some of the above items that are needed to create a successful rotator cuff multiple fixation points, allows the system for knotless devices that components, allows the a knotless device, prevents rip-acts as a rip-stop and greatly optimising the repair with multiple



repair; the button/capture allows for creation of a complete knot-less have only 30-40 percent knotless conversion of any bone anchor into through as the button/capture itself reduces the time of surgery while points of fixation.

Its **ZipE® FAST!** and versatile. The captures can be placed on tissue or on the exit side of the bone anchor or medical implant or both allowing surgeon's to utilize their favorite type of knot configuration, i.e., simple suture, horizontal mattress, double row fixation, ect.



2.4. Ziptek's Patents and Patenting Strategy

Dr. Bennett has put in place a comprehensive patent strategy to aggressively protect Ziptek's intellectual property. Dr. Bennett already has three patents granted in the US with additional global patents pending. These patents are owned by Dr. Bennett and are assigned to the Company on an exclusive, global and in perpetuity basis.

The three US patents granted to date are summarized in the table below.

Patent Name	Patent Number	Description
-------------	---------------	-------------

CONFIDENTIAL

ZipE® Rotator Cuff (Device)	#6013083	Knotless device that is used for the arthroscopic repair of rotator cuffs and far cortex fixation (covers two devices)
ZipE® Rotator Cuff (Method)	#6206886	Method patent for far cortex fixation using knot-less devices
ZipE® Soft Tissue	#6491714	Knotless device that is used for the repair of all soft tissue by using a tissue restraining member

Source: Management

Parts of each of these three patents cover the unique subscapular repair method and device.

A new patent pending application has been published (patent application PCT/US/2011/057872), publication No. US 2012 0101524 A1 and has been filed to the World International Patent Organization ("WIPO"), under the Patent Cooperation Treaty ("WIPO"—patent application WO 2012/058301 A1). This new robust application further protects the issued US patents for their intended use, optimizes the engineering art, expands the ability to be protected in countries abiding by the PCT, expands the indications of use beyond the orthopedic soft tissue repair market, allows the suture-capture construct to be coupled with ALL medical implants for fixation and is now filed in the European Union and in Mexico.

Additionally, a Continuation-In-Part ("CIP") application (patent application CIP12/912313) has developed from within the PCT application and is included in the US application. This allows the Company to have a proprietary bone screw and prevent competitors from developing an independent capture and utilizing Ziptek's suture with it. This has been done in order to hinder the ability of competitors to create slightly different products.

The final engineering design of the capture has been submitted as a CIP and as a provisional application. Presently, Ziptek has 2 patent application in U.S. office action, one in European Union Office action, one in Mexican Office action, one submitted to WIPO and will be sending its last Provisional to WIPO by March. Multiple additional divisional applications can be spun out from these pending applications.

The manufacturing technique for the suture with protuberances has been filed as a foreign application. Below is a summary of patent pending applications.

Pending Applications:

Surgical Suture System-Anchor(Prov)-	Pending	10/04/2012	#61/709,481
Surgical Suture System, Tissue Restraints/Anchors(CIP-2)	Pending	10/31/2012	#13/664,717
Suture with Beads-Manufacturing Process	Pending	01/12/2012	Foreign
Surgical Suture System, Tissue Restraints/Anchors(CIP-1)	Pending	10/26/2011	#13/281/963
Surgical Suture System(PCT/CIP-1)	Pending	10/26/2011	#US20120101524A1
Surgical Suture System(US)	Pending	10/26/2010	#12/912/313

As a result, management believes the Company may be able to corner the market for these next generation knot-less devices and gain significant market share over the coming years. Dr. Bennett believes this is an important step in the development of Ziptek, and should allow for international expansion within the next five years to other large orthopedic markets outside the US.

Ziptek has 5 issued United States patents protecting Zipe® products and methods and expects another to be allowed prior to 2016. Additionally, Mexico has allowed two of the issued United States patents. Europe is examining two of our US issued patents.

Ziptek has additional patent applications which consist of four separately patentable domains, which the WIPO has performed a preliminary Global search upon, and has deemed 75 percent of the claims globally patentable. This application is filed in 38 countries.

“Work-around” patent material has been filed and steps have been taken to preserve other material in initial applications, where one species has received a patent, as “in-play” material.

2.5. Ziptek Products

Ziptek intends to initially produce and market two distinct products:

- **ZipE®** Subscapular and medial row-coupled with any knotless device on the market
- **ZipE®** Rotator Cuff-to couple with any “non” knotless bone anchors on the market converting them to a knotless construct

Ziptek plans to introduce its own **ZipE® suture-bridge –patent pending-** bone anchor will **ZipE® Handle, ZipE® driver** s and its initial product will be a “peel-pack” bone anchor construct to include the suture-captures.

ZipE®- Handle



ZipE®- Driver Tip



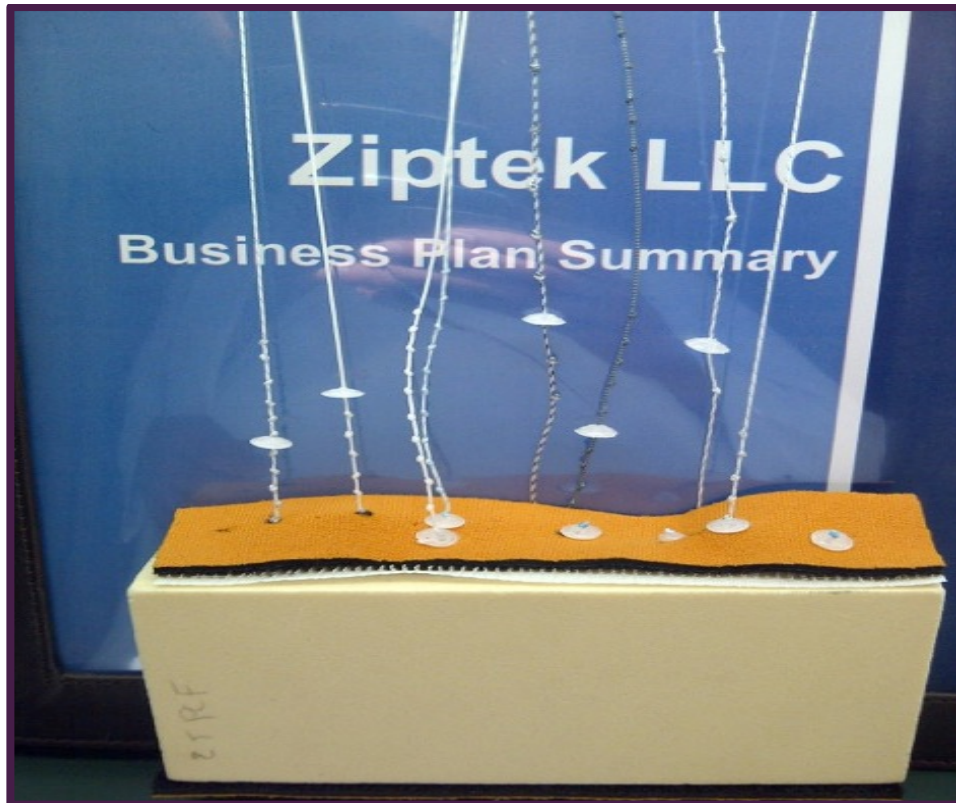
ZipE®-Captures

4.5-----6.5-----7.0----- and 10mm sizes

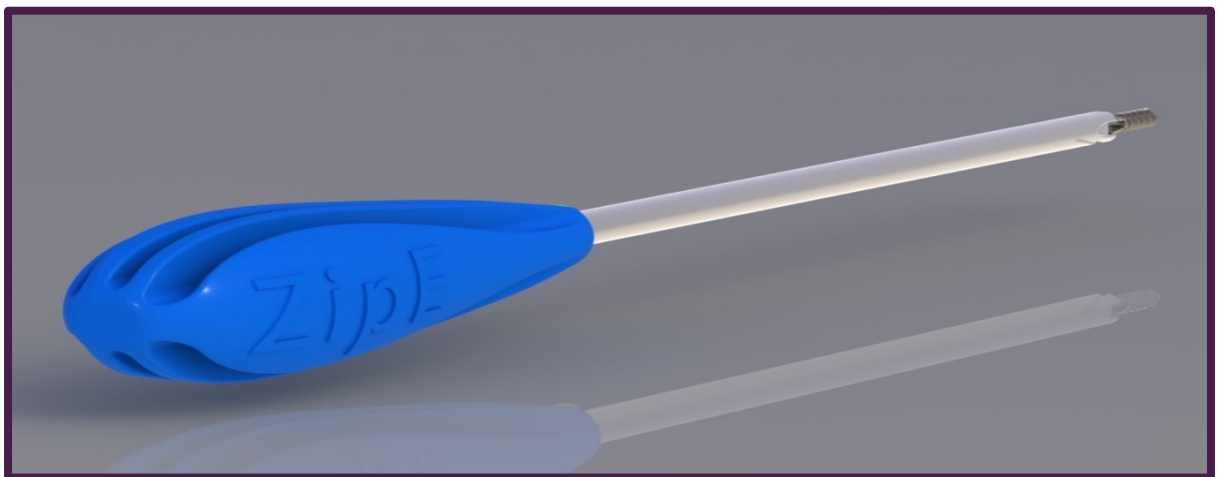


ZipE®- Sutures

Various captures being slid down the suture. The suture can be cut flush, left with a few beads or tied to the suture adjacent to it.



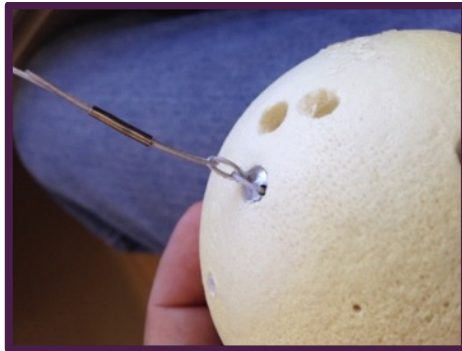
ZipE®-Handle/Driver/Screw



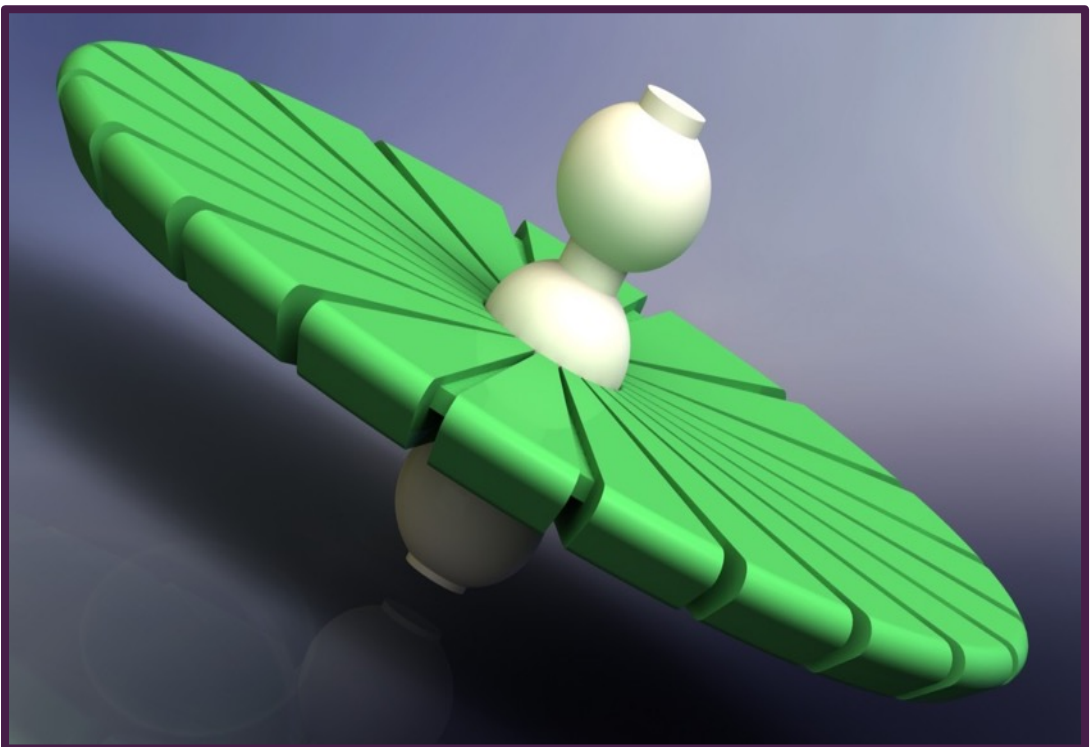
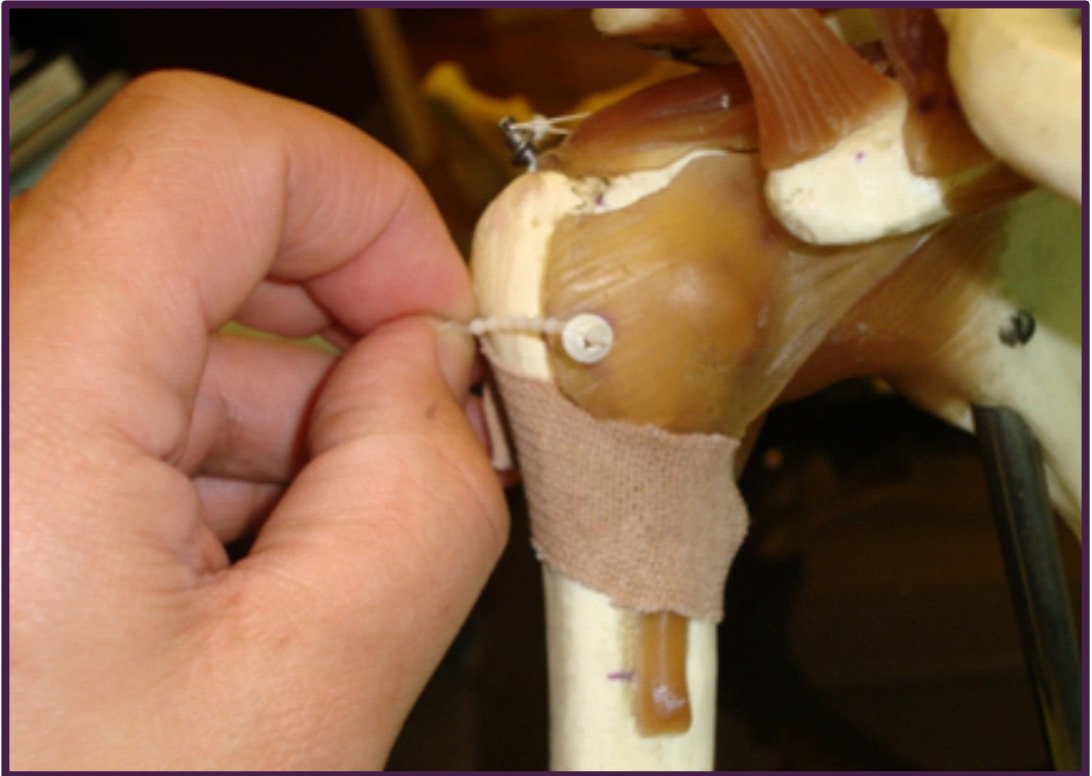
ZipE®- Screw



Prototypes for these two products have been developed to a non-commercial ready, working prototype level and tested, and shall shortly be submitted for FDA clearance. This screw test to 214 Newtons of Pull-out strength in 10 pcf sawbone, exceeding many competitor screw performance



Picture Showing Subscapular Repair with Ziptek's Zip-Tie™ Subscapular Device



The disc depicted is not the final engineered design- illustration to protect intellectual property.

CONFIDENTIAL

The initial products will be used for rotator cuff repairs, the multiple patents listed above allow Ziptek the opportunity to develop and produce a pipeline of products (utilizing this knotless technology) that can be applied to address the following additional soft-tissue repairs.

Additional Soft-Tissue Repairs to be Addressed by Ziptek's Products

Body Part	Procedure
Shoulder	Proximal biceps tenodesis repair
	Labrum repair or "slap" repair
	Bankart repair
	Capsule repair – instability procedures
	Shoulder separation surgery
	Shoulder dislocation surgery
Knee	Meniscal repair
	Anterior cruciate ligament repair
	Medial collateral ligament repair
	Lateral collateral ligament repair
	Medial patellofemoral ligament
Elbow	Distal biceps tendon repair
Ankle	Syndesmotic ligament reconstruction
Hip	Hip labrum repair

Source: Management

Devices to address the above repairs are expected to form part of Ziptek's technology development platform. The devices required for each of these repairs will be incremental developments of the devices already manufactured for the rotator cuff and subscapular repairs, and the Company has identified a suture protuberance capture that it believes can be employed for any implant in the body. Therefore management expects that creating devices for each of these repairs will be straightforward, and that engineering costs should be kept to a minimum.

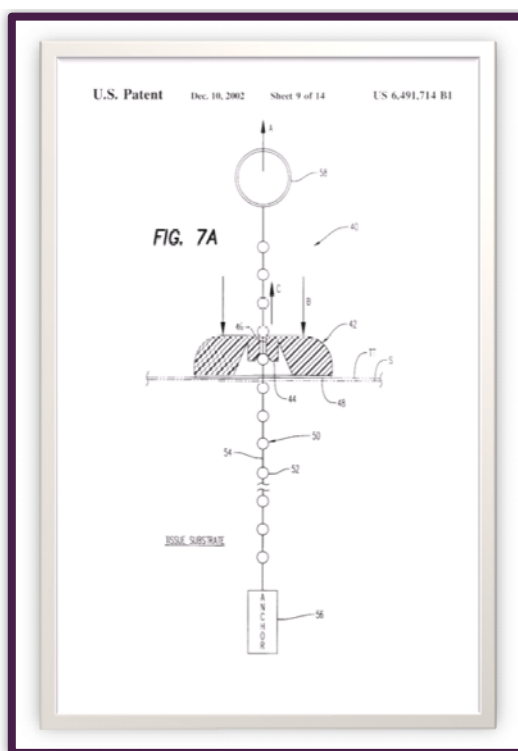
However, in order to maintain focus and promote early revenue generation, Ziptek's initial attention will be on the shoulder, and management shall wait to observe clear success in the

commercialization of Ziptek's initial two products before actively pursuing an entrance into each of the above repairs.

In addition to the 16 specific uses for Ziptek's products listed above, the following additional uses are envisaged (though not being actively considered by the Company at present):

1. **Shoulder** – coracoclavicular ligament repair and biceps pulley repair;
2. **Knee** – posterior cruciate ligament reconstruction, articular cartilage flap repair, collagen meniscus implant fixation, allograft meniscus implantation, collagen patch fixation for cartilcel implantation and scaffold implant fixation;
3. **Elbow** – medial collateral ligament reconstruction and ulnohumeral ligament reconstruction;
4. **Wrist** – triangular fibrocartilage ligament repair, intercarpal ligament repair, radio-ulnar disruption reconstruction and interface technology with distal radius fracture plate fixation; and
5. **Hand** – mallet finger repair, flexor digitorum tendon repairs and adductor pollicis brevis reconstruction.

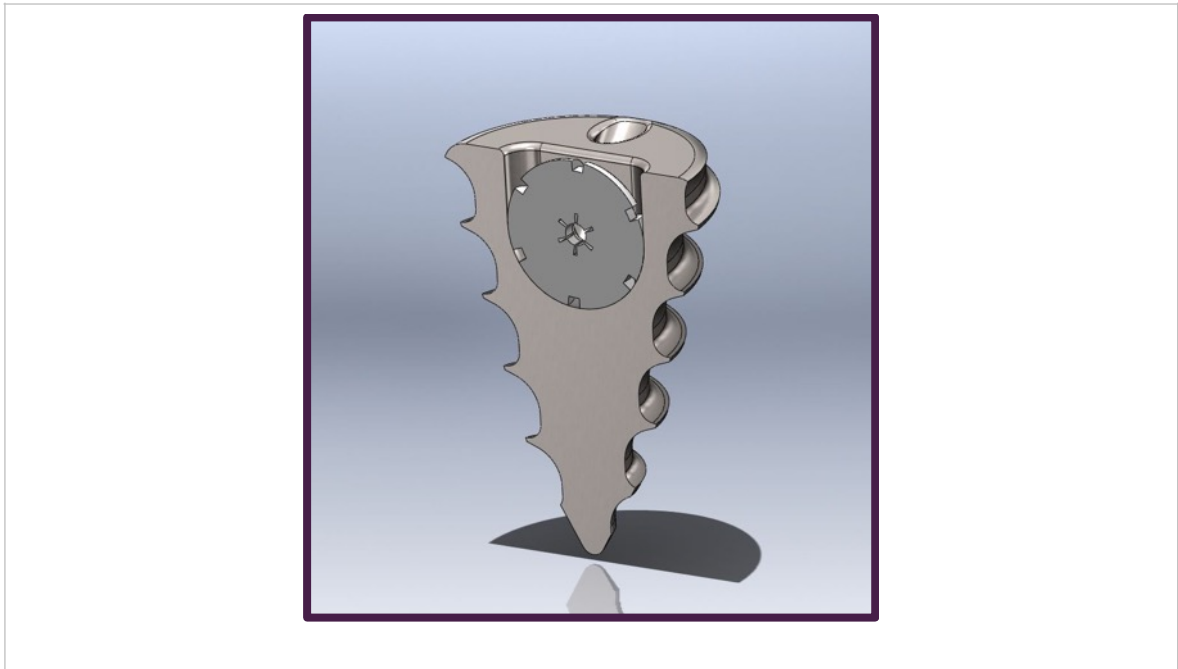
Picture of Common Patented ZipE® Technology to be Used for Ziptek Devices



Screws

Dr. Bennett has developed a conical screw, included within a current engineered suture-capture construct, for which a patent application has been filed. The Company intends to seek global patents for this screw design as a standalone product and market it, in order to gain a foothold in this sizeable market, which management estimates at c. \$2 billion globally (with 55-60% being in the US).

Ziptek's Conical Screw with Incorporated Engineered Suture-Capture Construct

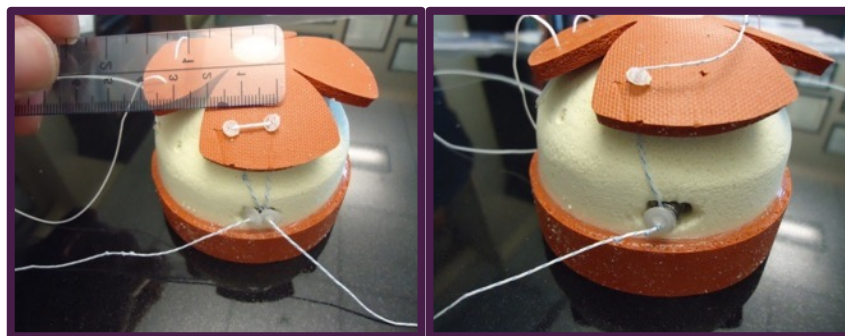


Source: Management

The patent pending screw should allow Ziptek to enter the bone screw market without potentially needing to license “optimal” screws, by owning its own optimally-engineered proprietary bone screw. Even without the screw patent, Ziptek has the ability to use off-patent screws in conjunction with its knot-less suture-capture system, couple them with presently patented screw designs and knot-less devices.

The screw can be used with knotless or traditional knotted sutures. The unique construct of the optimized screw can be utilized both as a force-fit screw or press-fit anchor, optimizing strength and ease of use. The new bone screw has applications outside of soft-tissue fixation to include bone fracture repair and plate or prosthesis screw fixation. The suture capture need not fit within an implantable medical device but need only fit over the exit side of the implant-see below.

We have a special driver which allows for the capture to be set following the driver's built-in counter-sink, so the capture lay flush below the surface of the bone. The captures need not be placed upon the soft tissue as depicted in this photo.



Addendum

Commercial ready products have been manufactured and part number and devices have been assigned.

ORDERING INFORMATION



**KNOTLESS TISSUE REPAIR AND
ATTACHMENT SOLUTION DEVICES**

PRODUCT #	DESCRIPTION
*A6-6550-PLC	6.5 MM RESORBABLE POLYMER CAPTURE, 5.0 MM TITANIUM SCREW, #2 USP UHMWPE BRAIDED SUTURE (QTY. 2), WITH NITINOL WIRE SHUTTLE AND DRIVER
*A6-6545-PLC	6.5 MM RESORBABLE POLYMER CAPTURE, 4.5 MM TITANIUM SCREW, #2 USP UHMWPE BRAIDED SUTURE (QTY. 2), WITH NITINOL WIRE SHUTTLE AND DRIVER
*RA6-6550-S	6.5 MM RESORBABLE POLYMER CAPTURE, 5.0 MM PLDLA/BTCP PLUG, #2 USP UHMWPE BRAIDED SUTURE (QTY. 2), WITH NITINOL WIRE SHUTTLE AND DRIVER
*RA6-6565-S	6.5 MM RESORBABLE POLYMER CAPTURE, 6.5 MM PLDLA/BTCP PLUG, #2 USP UHMWPE BRAIDED SUTURE (QTY. 2), WITH NITINOL WIRE SHUTTLE AND DRIVER
*RA7-6550-S	6.5 MM RESORBABLE POLYMER CAPTURE, 5.0 MM PLDLA/BTCP PLUG, #2 USP UHMWPE BRAIDED SUTURE (QTY. 2), WITH NITINOL WIRE SHUTTLE, DRIVER AND PUNCH
RA7-6565-S	6.5 MM RESORBABLE POLYMER CAPTURE, 6.5 MM PLDLA/BTCP PLUG, #2 USP UHMWPE BRAIDED SUTURE (QTY. 2), WITH NITINOL WIRE SHUTTLE, DRIVER AND PUNCH

PRODUCT #	DESCRIPTION
*RB91-S-4	CAPTURE HOLDER WITH 4 PCS OF RESORBABLE POLYMER CAPTURES

PRODUCT #	DESCRIPTION
*C3-0236-UPE	36" #2 USP UHMWPE BRAIDED SUTURE
*C4-2040-NI	40" NITINOL WIRE SUTURE SHUTTLE
*C2-50155-TI-2	5.0MM TITANIUM SCREW - QTY. 2
*C2-45155-TI-2	4.5MM TITANIUM SCREW - QTY. 2
*RC2-50155-PLT-2	5.0MM PLDLA/BTCP PLUG - QTY. 2
*RC2-65155-PLT-2	6.5MM PLDLA/BTCP PLUG - QTY. 2
*C7-50250-SS	REUSABLE ASTM STAINLESS STEEL PUNCH SHAFT FOR 5.0 MM PLUG
*C7-65250-SS	REUSABLE ASTM STAINLESS STEEL PUNCH SHAFT FOR 6.5 MM PLUG

*CHECK ON AVAILABILITY

Surgeons! -

* For very osteoporotic bone, ZipTek recommends the 5.0mm titanium screw and if a biocomposite plug is required, use the 6.5 mm plug.

** The 5mm titanium screw and the 6.5mm biocomposite plug should be placed through a "stab" incision in the skin and once seated the sutures should be shuttled out another portal or second stab incision. Following a cannula can be placed through the stab incision and the sutures retrieved back out through the cannula- the driver for these two anchors will fit through an I.D. of 8.1mm but the sutures will not.

*** 4.5mm titanium and 5.0mm biocomposite screw fit cannulas with I.D. of 8.1mm

**** Capture Holster- when loading each capture onto the suture, avoid using the crimp area created by each pass, as this weakens the nitinol loop.

***** The end of the driver is sharp and the driver must be kept parallel to the suture when pushing the capture down the suture - it takes a little force - firmly - but slowly - increase pressure and it will move at 7-8 lbs.

This material is intended for the ZIPTEK, LLC Sales Force only. It is not intended to be redistributed without the express written consent of ZIPTEK, LLC.



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2.6. Beyond Orthopedics

Ziptek's patented technology is easily expandable for the repair of all soft-tissue injury cases in all medical disciplines and as a conduit between soft-tissue and hard-tissue repair in the human body, and is not confined to orthopedic surgery.

The engineered **ZipE**® suture-capture construct can be attached to several kinds of implants, such as metal plates, breast implants, pacemakers and prosthetic hips. Ziptek's technology is unique in this regard and the Company can therefore look to address markets in the wider surgical realm, beyond orthopedics. For example, Ziptek's engineered suture-capture construct could potentially be used to fasten a pacemaker in place.

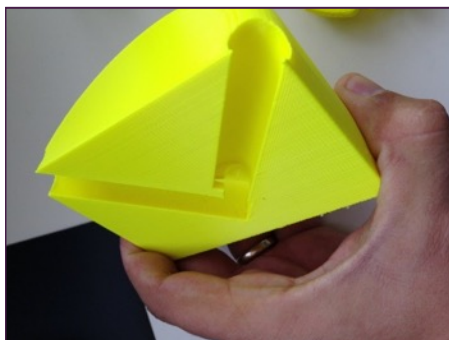
Management believes the patented suture-capture construct will be able to be utilized in conjunction with stand-alone third-party developed implants or through a licensing agreement between Ziptek and other companies with implantable devices, by incorporating the suture-capture construct into their implantable device.

Additionally, Ziptek has alternative **ZipE**® **capture configurations** for various tissue repair and attachment applications. These items are patent pending-see below.

This capture performs at 2:1 "No-Go" to "Go" ratios and can be made even smaller than our 4.5 mm capture.



This capture locks the suture within a medical implant.



3. The Market

3.1. Market Trends

The two key trends influencing Ziptek's market are:

1. The medical procedures and product usage statistics; and
2. The customer or chain of distribution considerations.

Both factors are favorable for Ziptek. The first trend is the fact that minimally invasive surgical solutions have replaced traditional open techniques – approximately 1,000 arthroscopies were performed in the United States in 1970, compared to 3.4 million arthroscopies in 2008. Additionally, sports-related injuries are a primary catalyst for soft-tissue repair surgeries. Young people are turning to surgery to take advantage of improving implant technology and older people are more active than in the past, resulting in more injuries. The second trend affecting the market is the fact that surgeons, as well as distributors, are constantly looking for innovative products that will improve upon the technology they currently receive or offer. As a result, there is always space for new, innovative products in this market.²

In the current tough economic climate, hospitals and private practices are looking to cut costs wherever possible. This trend is also to Ziptek's advantage, given the Company's low cost manufacturing option.

3.2. Global Medical Device and Technology Industry

The medical device and technology industry is an industry that has traditionally been driven by iterative changes to existing technologies. Today, we are seeing an industry driven primarily by federal healthcare reform in the United States and a new era of cost containment. Another trend currently gaining momentum in the medical device industry is the growth opportunities for medical device companies in emerging markets such as China, India and the Middle East. In these emerging markets, the number of people of middle class status is growing, GDP is increasing at a considerably higher rate than in developed markets, and both the public and private sectors of emerging countries are increasing their investment in healthcare.

While these trends are important to note, the United States remains the largest and most profitable medical device market in the world, accounting for 41% of the market followed by 32% and 15% for Europe and Asia-Pacific respectively.

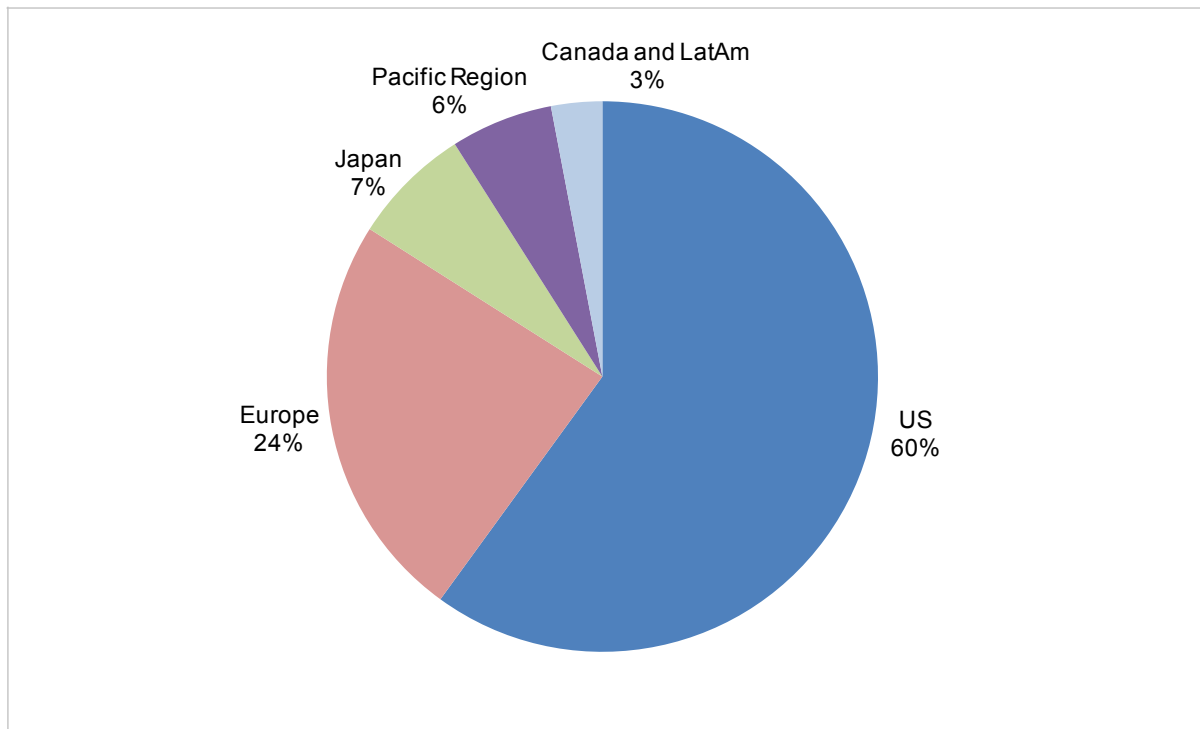
3.3. Global Orthopedic Market

The global orthopedic device market grew by 4.5% in 2010, to \$39.5 billion³, and the United States accounted for 60% of industry-wide global sales followed by Europe (24%), Japan (7%), the Pacific Region (6%), and Canada and Latin America (3%).

² *Vital and Health Statistics of the National Center for Health Statistics*

³ *Orthoworld Inc., 2011*

Global Orthopedic Device Market by Region, 2010



Source: Orthoworld Inc., 2011

The table below illustrates the US and worldwide orthopedic markets by product. While the majority of Ziptek's initial business is likely to fall in the arthroscopy market, management believes the market for Ziptek's products exceeds just the arthroscopy market given the wide-ranging uses of the Company's products. Areas of reconstructive devices, fracture repair and orthobiologics are also expected to be addressed by Ziptek's products, opening the Company to a global market of ca. \$27bn.

2010 Worldwide Orthopedic Product Sales

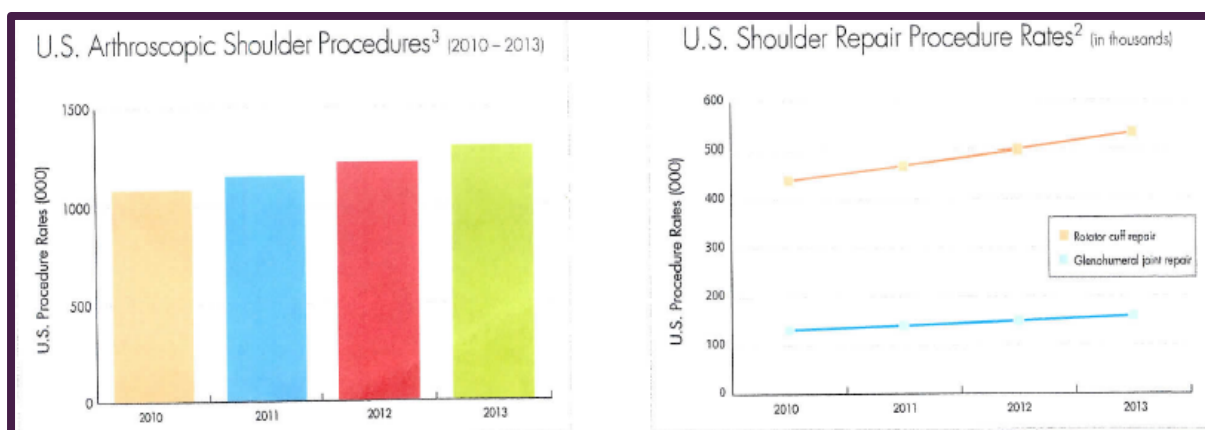
Product Segment	US	Rest of World	Global	Change vs. 2009
Reconstructive Devices	\$7.3bn	\$6.5bn	\$13.8bn	3.7%
Fracture Repair	\$2.9bn	\$2.6bn	\$5.5bn	5.8%
Arthroscopy / Soft Tissue Repair	\$2.1bn	\$1.6bn	\$3.7bn	9.8%
Spinal Implants / Implementation	\$5.1bn	\$2.2bn	\$7.3bn	2.4%
Orthobiologics	\$2.9bn	\$1.1bn	\$4.0bn	2.7%
Other Products	\$3.5bn	\$1.8bn	\$5.2bn	6.3%
Total Market	\$23.7bn	\$15.8bn	\$39.5bn	4.5%

Source: Orthoworld Inc., 2011

The above table shows that the arthroscopy/soft-tissue repair market that Ziptek is initially targeting is the fastest growing of all the orthopedic product markets, exhibiting sales growth of 9.8% in 2010 over 2009.

In 2010, there were more than 3.8 million minimally-invasive surgeries performed in the United States alone. 2.2 million of these procedures were in the knee and over 1 million in the shoulder (including c. 450,000 rotator cuff repairs). Approximately one-third of all rotator cuff tears involve the subscapularis tendon for which there are no knot-less medical device solutions on the market that allow for a compressive button to be utilized. Ziptek will focus on this market, especially the untapped subscapularis tendon market offering this new button technology, the untapped medial row fixation market that is desperate need of a knot-less solution to increase points of fixation in a knot-less fashion and may offer to license its technology to companies who do not have a knot-less solution in order to convert their bone anchors to a knot-less system. This multi-faceted approach will get us into many operating rooms along side other products in this fashion and should allow for the immediate and rapid capture of significant market share.⁴

Obviously the soft tissue repair market for orthopedics is large and expanding with growth rates exceeding 10 percent. As we noted earlier, we are looking to enter the shoulder soft-tissue repair market, namely, the rotator cuff repair market with 2 devices and will prove to ourselves that we can commercialise these successfully prior to embarking on the development of further products from our technology development platform.



ODTMAG.com November/December 2011

We are comfortable in this market to start, as can be seen above, there are over 1,200,000 shoulder arthroscopic procedures being done per year in the United States in 2012 and we are approaching 500,000 rotator cuff repairs per year. The growth rate exceeds 10 percent per year, the population is aging, surgeons are adopting this as standard of care and in patients over 60, nearly 60 percent have rotator cuff tears.

3.4. Competition

Large companies with established brand names and distribution patterns have a distinct advantage in the medical device industry. The top six companies in orthopedic medical devices (Stryker Corp., Johnson & Johnson, Zimmer Holdings, Medtronic Inc., Biomet Inc. and Smith & Nephew plc) have more than 70% of the global market share, with five of these companies being based in the United States. It should be noted, however, that some of these multinational/global orthopedic companies do not presently have a soft-tissue repair division.

Despite the dominance by these large companies, new small companies are succeeding on a regular basis, dependent on their technology and its overall cost-of-treatment advantages. These

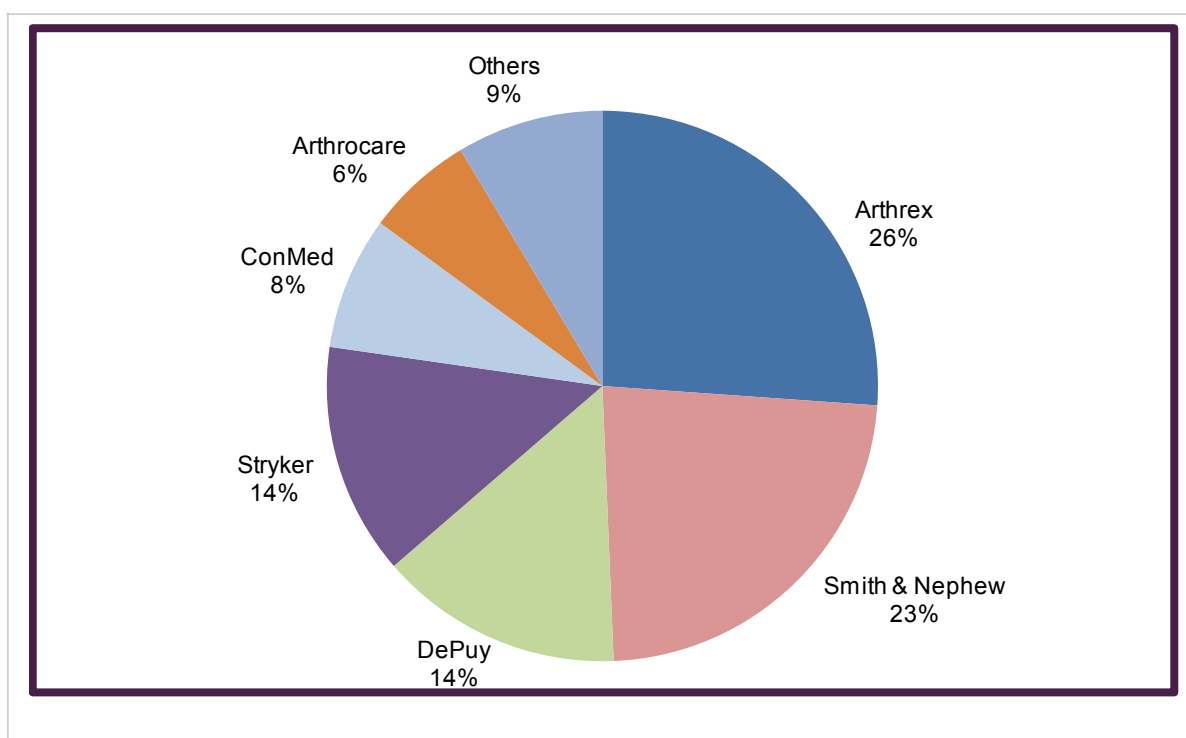
⁴ Orthoworld Inc., 2011; management estimates

small companies gain advantages by being the innovators and usually get acquired by a larger company.

Important competitors to consider in the implantable soft-tissue repair device market include: Arthrex, CONMED, DePuy Mitek (owned by Johnson & Johnson), Arthrocare, Smith & Nephew, and Stryker, yet because of this lucrative market new players enter continuously with “me-too” devices. We are excited that with our heavily patent protected IP and our novel technology that we can leap-frog present technology and quickly get acquired.

Each of these companies has a strong reputation, holds a large portion of the market, and has entrenched loyalty among surgeons using its products.

Global Arthroscopy/Soft-Tissue Repair Market Shares, 2010



Source: Orthoworld Inc., 2011

Arthrex and Smith & Nephew are the market leaders with 26% and 23% of the global market respectively. Ziptek is likely to directly and indirectly compete with all the above firms in domestic and global markets.

3.5. Ziptek's Competitive Edge

Ziptek's primary competitive advantage lies in its heavily patent-protected unique button/knot-less subscapular device, far cortex fixation option, offers the only device that is knot-less for the medial row repair and can be utilized for the medial row repair with any of the knotless lateral row repair devices on the market (lacking medial row knotless options), can convert any basic bone anchor to a knot-less device, and finally, will get itself in the operating room often along side these competitors as it offers to fill these voids. Currently, orthopedic surgeons do not frequently repair the subscapular tendon during rotator cuff surgeries because it is too difficult. As a result, the rotator cuff surgery is negatively impacted as the patient has continued deterioration of the shoulder and potential non-optimal functional outcomes. The orthopedic industry is quickly realizing the importance of repairing the subscapular tendon. Management believes Ziptek will be

the only provider of a "knotless" subscapular repair device that is **"easy"** enough for all orthopedic surgeons to use, enabling the Company to create a market with no competition.

Current Concepts With Video Illustration. Why Repair the Subscapularis? A Logical Rationale

Jonathan B. Ticker, M.D., and Stephen S. Burkhart, M.D.

Abstract: Tears of the subscapularis tendon are now more frequently recognized and are often associated with tears of the posterosuperior rotator cuff tendons. This has been facilitated by arthroscopic approaches, and repair techniques have been developed. In the setting of a rotator cuff repair, when a subscapularis tendon tear is found in continuity with a supraspinatus tendon tear, it is essential to recognize how the repair of both tendon tears can influence the overall security of the entire repair construct. When a repairable subscapularis tendon tear is left unrepaired, the function of the subscapularis muscle will be lost. In addition, the posterosuperior rotator cuff tear will be more difficult to repair, and it will be less securely repaired. When the subscapularis tendon is repaired initially, the posterosuperior rotator cuff repair can be more easily and more reliably achieved.

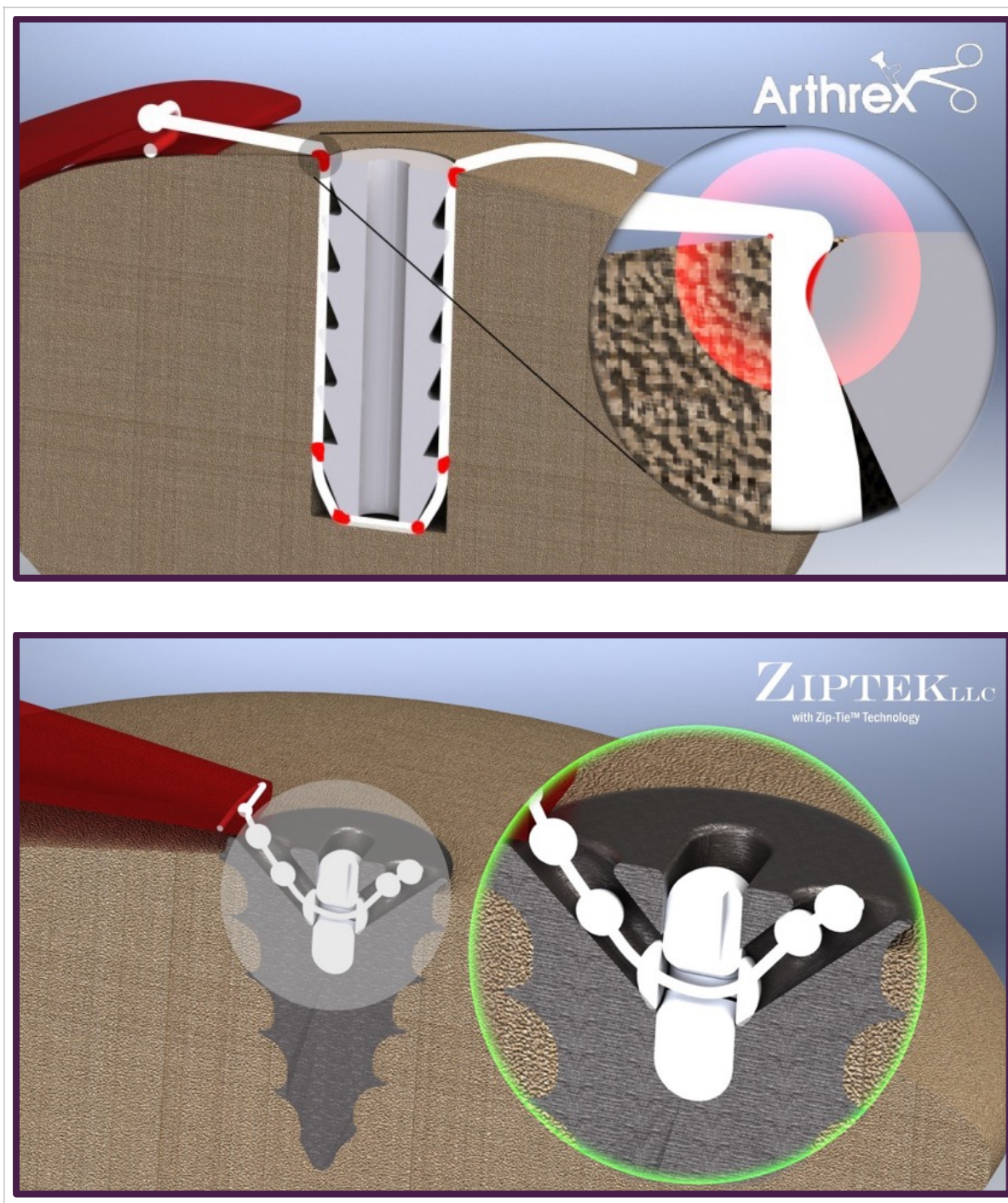
Arthroscopy: The Journal of Arthroscopic and Related Surgery, Vol 27, No 8 (August), 2011: pp 1123-1128

This is an important competitive advantage for Ziptek because management intends the niche subscapular market to serve as Ziptek's entry point into a market where surgeons are traditionally loyal to a certain brand of devices. As surgeons committed to competitors' brands, such as Arthrex or Arthrocare, begin to use Ziptek's subscapular device, Ziptek is likely to gain exposure across all markets.

A second significant competitive advantage that Ziptek holds over its competitors is its innovative, patent-protected **ZipE®** technology. The **ZipE®** technology allows for faster, less expensive, potentially stronger, and more surgically efficient products to be developed for soft-tissue repair by using a technology that does not crimp, crush, pinch or provide an interference fit hold, by way of friction, potentially allowing for slippage, failure from cyclic fatigue or outright weakening occurring at levels above simple suture and horizontal mattress suture levels.

And its **ZipE®** fast!

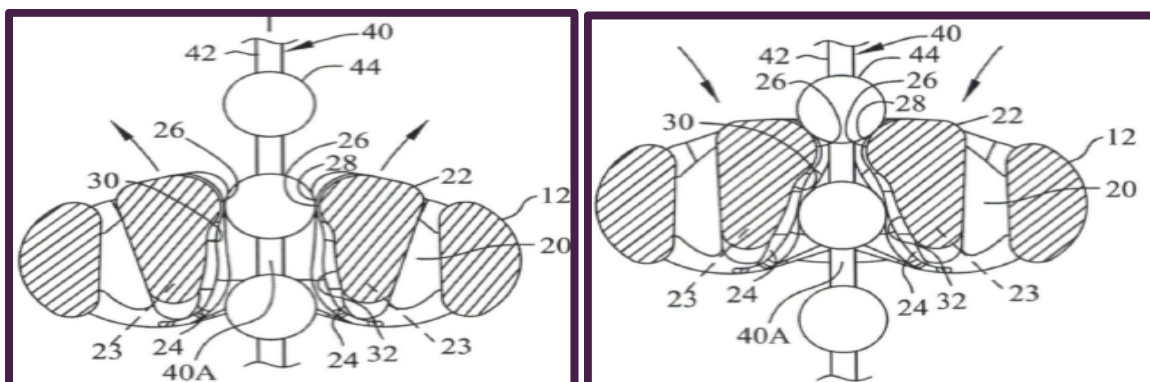
Pictorial Comparison of Ziptek and Arthrex Device-* see website ziptekglobal.com or accuracy



Source: Management

**The above comparison is presented simply to illustrate the difference between friction hold and ZipE® suture/capture construct. It is not meant to represent the exact engineering for both.*

Below is the actual engineered patent-pending construct of the **ZipE®** capture. It's engineering genius relies on the fact that the following the passage of the protuberance through the opening, the hole collapses and actually gets smaller when its tries to travel in the opposite direction.



While its initial focus will be on the shoulder, management believes this **ZipE®** technology can be applied to at least 16 surgical applications in the orthopedic sportsmedicine field, as detailed in section 2.4. Ziptek is likely to benefit immensely from this, as it develops a pipeline of innovative products utilized over a range of soft-tissue repair surgeries throughout the human body. Other knotless sutures are mainly targeted at rotator cuff repair and are likely to be considerably less versatile than Ziptek's engineered products, giving Ziptek an advantage over its competitors in other orthopedic repairs and potentially in non-orthopedic procedures as well.

Comparison of Ziptek Device with Other KnotLess and Knotted Solutions

	Speed	Ease of Use	Pull-out Strength	Minimizing Creep	Minimizing System Displacement	Minimizing Fatigue Failure	Minimizing Cost	Engineered Suture / Capture Interface
Ziptek								
1 st Generation Knot-Less Devices ¹								
Tornier Knot-Less Device								
BioMet Knot-Less Device								
Traditional Knotted Devices			n/a		n/a			

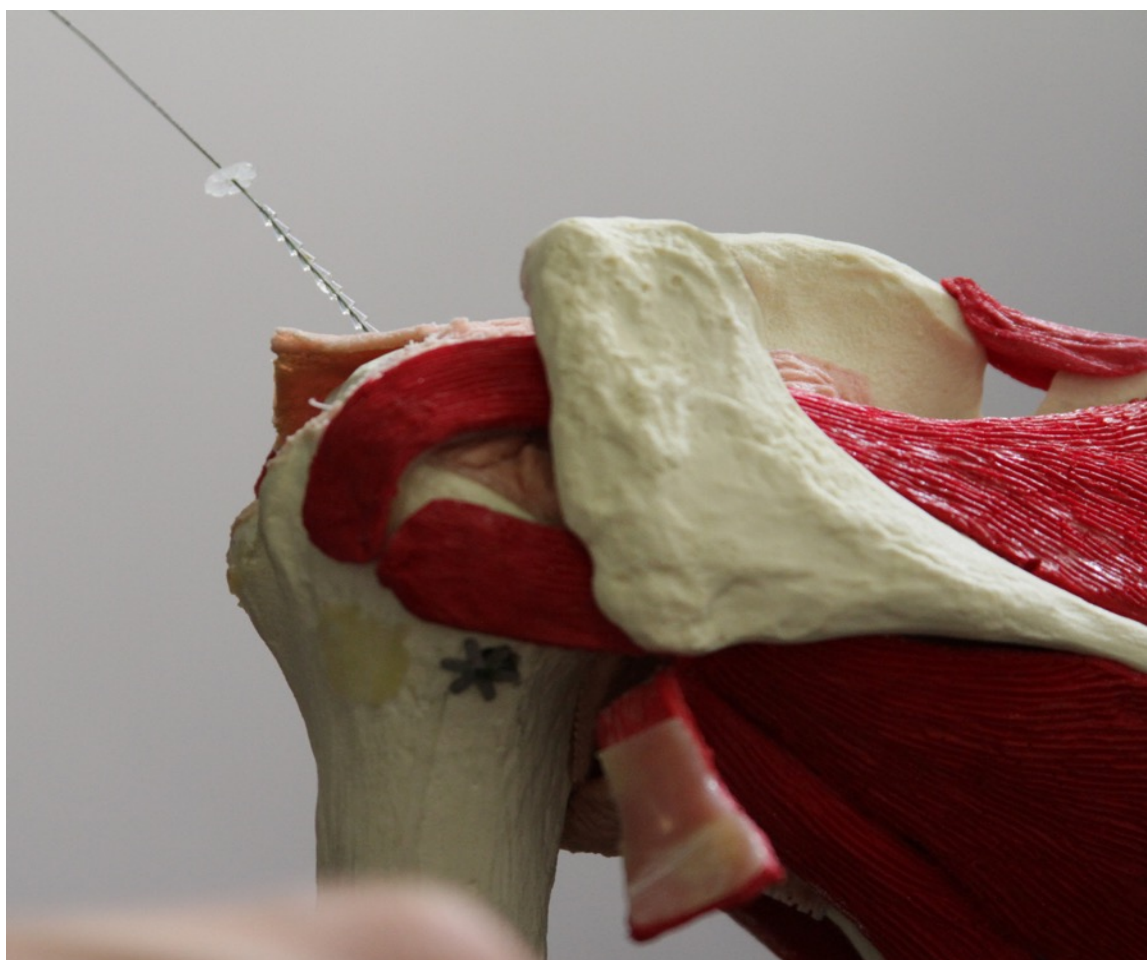
Note: (1) Includes comparable devices from Arthrex, CONMED, DePuy Mitek, Arthrocare, Smith & Nephew and Stryker, whose devices share broadly similar characteristics
Source: Management

Management believes the **ZipE®** engineered suture-capture construct should significantly aid procedures where weak soft-tissue or weak bone is involved, by preventing rip-through in a very straightforward, time-saving manner.

One significant advantage of Ziptek's technology for large to massive rotator cuff tears with poor soft-tissue quality is likely to be in the recognized mechanical advantage of using as many "knots" (points-of-fixation) as possible with these tears. With large tears, upwards of 15 knots could be utilized per repair. Depending upon the surgeon, each knot placement could take as much as 7-10 minutes per knot, exceeding 120 minutes operative time for this portion of the procedure alone. With **ZipE®**, each fixation point could be reduced to less than 2 minutes per knot-less fixation point, decreasing operative time by over an hour.

These large tears often involve poor bone quality, leading to many anchors not holding, despite their engineered optimization. **Ziptek holds a unique "method" patent for techniques of "far-cortex" fixation of rotator cuff repair.** As such, Ziptek has the ability to combine its knot-less construct with a "far-cortex" cortical fixation which utilizes strong cortical bone, as opposed to osteoporotic weak bone, for anchoring.

Demonstration of Far-Cortex Cortical Fixation



Source: Management

The above photograph shows the highlighted “far-cortex” anchor on strong cortical bone on the opposite side of the bone to the injury, rather than the suture being anchored within weak cancellous bone.

4. Strategy and Implementation Summary

Ziptek intends to use its patented technologies, as well as its operating agreement with a medical device manufacturer, to complement its use of experienced surgeons and a reputable network of independent distributors.

4.1. FDA Clearance Process

Prior to going to market, Ziptek shall apply for FDA clearance for its devices. Bone anchors are a well understood area of the medical device market from an FDA clearance perspective, and clear guidelines exist and can be found and downloaded from the internet, 1996 FDA guidelines.

<http://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/GuidanceDocuments/ucm080263.htm>.

This is a very straightforward process and no clinical trials or animal trials are needed. Presently, sawbones are utilized with well defined porosity called "pcf", the variances in "pcf" represent varying levels of osteoporosis, and as such eliminate any factors related to this when using cadaveric bone. Sutures, and because our design utilizes commercially available sutures, have well documented failure strengths for size of suture and material. Bone anchors have well documented pull-out strengths, references available upon request. As such the FDA will require that we show that our suture/capture interface fails in accordance with standard suture force ranges and depending on the screw we utilize will require pull-out strengths for our anchor.

See the 1996 FDA guidelines below.

<http://www.matweb.com/search/datasheettext.aspx?matguid=67618dcd37d74224b42a4521db3f1798>

"The purpose of this document is to recommend to the device manufacturer or sponsor of a future premarket notification (510k), Investigational Device Exemption (IDE), Premarket Approval (PMA) application, reclassification petition, or master file important information that should be provided to the FDA so that the substantial equivalence and/or safety and effectiveness of bone anchor or suture anchor devices can be determined.

Bone anchors or suture anchors are devices which attach soft tissue to bone. This may be achieved by tying one end of a suture to soft tissue and the other end to a device which "anchors" the suture to the bone. In this document, "anchor" refers to the device the suture is attached to and "bone anchor" refers to the anchor plus attached suture (if there is a suture).

Suggestions and recommendations presented in this document are not mandatory requirements, but reflect data and methodologies which the Office of Device Evaluation (ODE), Division of General and Restorative Devices (DGRD) has determined to be acceptable. In this context, several points should be remembered:

1. The guidance document is primarily intended to include scientific recommendations. Therefore, it suggests some important evaluation criteria, test procedures and end points. There may be circumstances where an alternative method or additional information may be useful and this document has included some examples. If the manufacturer or sponsor can answer the same scientific issues by means other than those included in this guidance document, they should not refrain from doing so. Because the scope of this document does not specify any particular type of bone/suture anchor device, some of the recommended test methods may need modification to address the properties of a particular product.
2. The guidance document should be viewed as a living document. As scientific knowledge changes and scientific techniques are improved, FDA will periodically revise the document.

III. ESTIMATION OF CLINICAL LOADS APPLIED TO THE DEVICE FOR COMPARISONS TO BENCH TEST RESULTS

The maximum expected clinical loads applied to the device and tissues should be measured, calculated, or obtained from other scientific sources and compared to the results of the fixation strength tests described below. If this data is impossible to obtain, the strength of each healthy tissue indicated for repair by the bone anchor should be determined or calculated. This provides an upper limit for the maximum expected loads on the device. For example, if the fixation strength of the bone anchor approaches this upper load limit, clinical data may not be required.

IV. PRECLINICAL TEST DATA

The fixation strength of the bone anchor device should be evaluated in a bone model which simulates the density and bone structure of the bony site for which it is indicated. The results should be compared to a legally marketed predicate device or an established and validated surgical procedure using a suture (control) for the same intended use as the test device.

The loads to displace the test and control bone anchor devices from the bone model (e.g., cadaver bone) should provide precise data on failure loads and mechanisms that clinical data are unable to provide. However, these in vitro test methods may not adequately simulate actual in vivo conditions because of tissue strength variability between different joints and bony sites and the variability resulting from different surgical techniques. The number of anchors, orientation of the device and suture, patient parameters (e.g., applied loads) and other unknown variables complicate the usefulness of the results. Therefore, the worst case situation should be tested (e.g., the suture loaded perpendicular to the surface of the bone test sample).

If a previously cleared suture is packaged and sterilized with a bone anchor, the following should be provided:

suture diameter, needle attachment strength and knotted tensile strength if the suture was not sterilized prior to packaging with the anchor;

if already sterilized before packaging, the method of initial sterilization and a statement from the suture company that the second sterilization method is acceptable.

Documentation should be maintained regarding vendor certification for raw or semiprocessed source material, all manufacturing and quality control release procedures, and validation of sterilization procedures used in the manufacture of the suture. Any deviation of the source material or processing requires submission of a new premarket notification and Food and Drug Administration (FDA) clearance prior to commercial distribution of the modified device.

Clinical data may be required if the intended use, materials, design or some combination of these differ substantially from a legally marketed predicate device and increase risks to health (e.g., see [Appendix 1](#)). Examples might include new absorbable materials not previously cleared for implant use or a new design with a pull-out strength that is less than the predicate device.

To help FDA in its review and to facilitate a determination of substantial equivalence, a very brief summary of all mechanical test data should be organized into a table as suggested in [Appendix 2](#). Any additional and important information not specifically mentioned should be inserted into this organization where appropriate. Detailed test reports from which the summarized data originated should be organized in a similar manner and included in the submission to FDA. The detailed reports should include, but are not limited to, the information contained in [Appendix 3](#).

V. APPENDIX 1

POSSIBLE FAILURE MECHANISMS OF BONE ANCHORS

Loss of fixation is the primary cause of bone anchor failure. Loss of fixation may occur due to inadequate:

SOFT TISSUE STRENGTH

One possible failure mechanism is suture cutting through the soft tissue to which it is tied. This is something all suture retaining devices have in common. This failure mechanism is dependent only on the suture, soft tissue and surgical technique so the failure mechanisms involving the bone anchor may be evaluated independently of the soft tissue strength.

SUTURE STRENGTH

The suture is a probable point of failure, partly because the suture is usually weaker than the anchor. The suture may fail at the anchor, knot or some unexpected flaw mechanically isolated from the anchor.

BONE OR ANCHOR STRENGTH

The anchor may fracture and loosen from the bone or the bone may fracture, resulting in anchor displacement from the bone due to inadequate fixation. Bone fractures are more likely to occur at bony sites which contain greater amounts of cancellous or more porous bone.

SUTURE FATIGUE RESISTANCE

Notching of the suture as the suture rubs against bone or the anchor during cyclic motion may result in suture breakage. This may not be an important issue except in special applications where healing would not be sufficient to bear expected loads by six weeks.

ANCHOR FATIGUE RESISTANCE

Cyclic stresses in the device may exceed the endurance limit of the anchor design, resulting in device fracture, loosening and loss of fixation. This may not be an important issue if the tissue heals soon (less than six weeks).

VI. APPENDIX 2

The materials, methods and results of fixation strength testing should be organized as follows:

fixation strength test:

anchor type;

suture:

name,

material,

size,

number,

knot type

sterility

test subject or substrate:

type (e.g., human cadaver tibia),

cortical bone thickness and depth of bone at anchor implant site

quantitative description of microstructure, porosity and defects;

distance between drill holes;

presoaking time and medium;

angle of applied loads;

displacement rate;

other methods;

fixation strength;

failure mode (e.g., see appendix 1);

summary:

statistical evaluation of the differences between the results for the test and control specimens;

the maximum possible loads that the suture and anchor could experience under clinical conditions;

the strength of the healthy tissues indicated for repair;

all references (authors, title, etc.)

All of the indications being pursued are expected to be open to clearance through the 510(k) process. The Company believes that suitable predicate devices exist, references upon request, for these clearances to be readily obtained and is confident that 510(k) clearance can be obtained for all its products, yet is prepared to take a DeNovo route if needed and the company has appointed a specialist FDA consultant to assist and advise throughout the FDA clearance process. We are in the process of putting together the quality system implementation.

Given Dr. Bennett's expertise in soft-tissue repair and the knowledge a consultant shall bring to the process, management is confident FDA clearance for its initial devices should be received by Q3-4 2014. Literature controls form the basis for the testing approach and actual bench testing of competing devices may not be necessary.

[A biomechanical comparison of tendon-bone interface motion and cyclic loading between single-row, triple-loaded cuff repairs and double-row, suture-tape cuff repairs using biocomposite anchors.](#)

Barber FA, Drew OR. Arthroscopy. 2012 Sep;28(9):1197-205. Epub 2012 May 15

[Biomechanical testing of suture-based meniscal repair devices containing ultrahigh-molecular-weight polyethylene suture: update 2011.](#)

Barber FA, Herbert MA, Bava ED, Drew OR. Arthroscopy. 2012 Jun;28(6):827-34. Epub 2012 Feb 7

[Biomechanical analysis of pullout strengths of rotator cuff and glenoid anchors: 2011 update.](#)

Barber FA, Herbert MA, Hapa O, Rapley JH, Barber CA, Bynum JA, Hrnack SA. Arthroscopy. 2011 Jul;27(7):895-905

[Cyclic load testing and ultimate failure strength of suture anchors in the acetabular rim.](#)

Ruiz-Suarez M, Aziz-Jacobo J, Barber FA. Arthroscopy. 2010 Jun;26(6):762-8. Epub 2010 Apr 24

[Biomechanical advantages of triple-loaded suture anchors compared with double-row rotator cuff repairs.](#)

Barber FA, Herbert MA, Schroeder FA, Aziz-Jacobo J, Mays MM, Rapley JH. Arthroscopy. 2010 Mar;26(3):316-23. Epub 2009 Dec 29.

[Biomechanical testing of new meniscal repair techniques containing ultra high-molecular weight polyethylene suture.](#)

Barber FA, Herbert MA, Schroeder FA, Aziz-Jacobo J, Sutker MJ. Arthroscopy. 2009 Sep;25(9):959-67.

[Cyclic load and failure behavior of arthroscopic knots and high strength sutures.](#)

Barber FA, Herbert MA, Beavis RC. Arthroscopy. 2009 Feb;25(2):192-9. Epub 2008 Nov 17

[Suture anchor materials, eyelets, and designs: update 2008.](#)

Barber FA, Herbert MA, Beavis RC, Barrera Oro F. Arthroscopy. 2008 Aug;24(8):859-67. Epub 2008 May 9

[Cyclic load testing and ultimate failure strength of biodegradable glenoid anchors.](#)

Barber FA, Coons DA, Ruiz-Suarez M. Arthroscopy. 2008 Feb;24(2):224-8. Epub 2007 Nov 5

[Sutures and suture anchors--update 2006.](#)

Barber FA, Herbert MA, Coons DA, Boothby MH. Arthroscopy. 2006 Oct;22(10):1063.e1-9

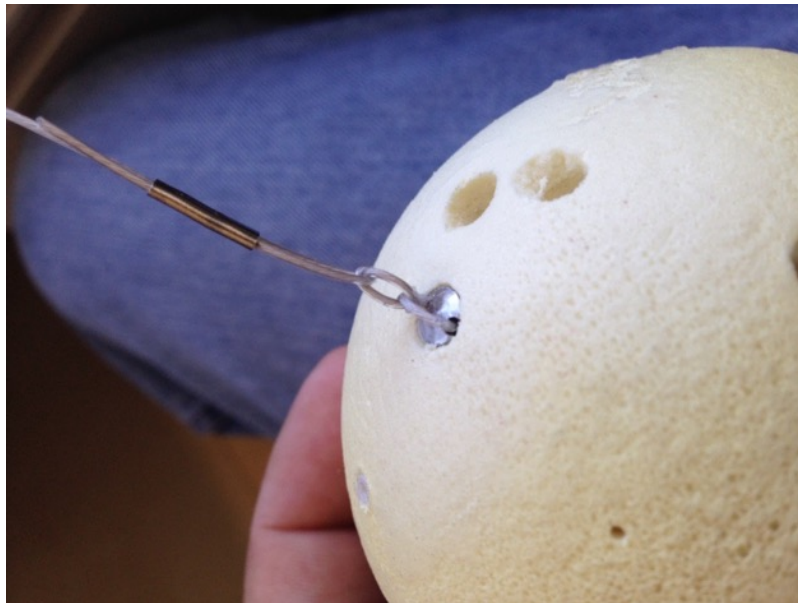
We have preliminarily tested our capture hold on the suture. The suture travels through the capture forward with 1/5th the force that it prevents its reverse travel. We have engineered this with Finite Element Analysis and with a rigid bead, results in 5:1, No-Go to Go forces. This means that it takes about 22 newtons or 4 pounds to pull the suture through the capture and does not fail until over 84 newtons, about 20-25 pounds with direct pull and 124 Newtons with 30 degree angular pull. Each suture has two fixation points, so per suture we are exceeding 168 Newtons for direct pull and 256 Newtons for indirect pull failure forces on the capture.

See video of testing below



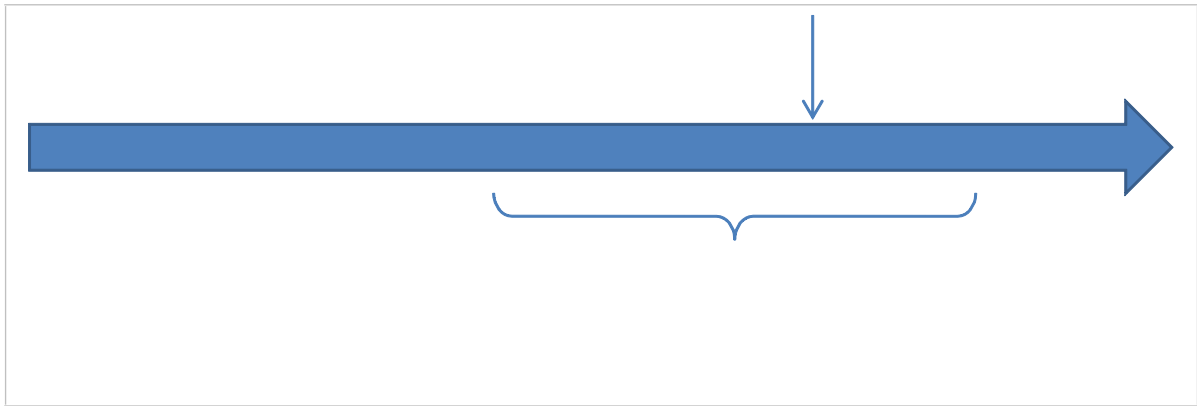
7mmnogo_3petal (3)_WMV V8.wmv

Additionally, **ZipE® patent pending screw**, has been tested in 10 pcf sawbone and its pullout strength is exceeding industry giant's comparable screw -5.5mm Arthrex corkscrew, by 80 percent! This is particularly important in weak bone.



Subsequently, based on the commercial success of the first two devices, management intends to manufacture prototypes and submit applications for the remainder of its 14 earmarked devices (as described in section 2.5) in a strategically planned and potentially bundled approval approach. The Company aims to have these 14 devices approved in the second half of 2015, 2016 and 2017. The exact bundling of the applications shall be agreed upon in consultation with the Company's FDA advisors to achieve the optimal outcome, both in terms of cost and time to market. An approximation of the timeline involved for the FDA clearance of Ziptek's initial 16 products can be seen below.

[Expected FDA Clearance Timeline](#)



Source: Management

As further devices are created through the Company's technology development platform, such as non-orthopedic devices, these new devices are also likely to be put through the same FDA clearance process.

The FDA 510(k) clearance process, on average, takes 132 days from submission to clearance and has been keeping documentation of its process that lead to the final engineering design , necessary for complying with the FDA's CFR 820 process.

Finally, we will be required, in some instances to perform biocompatibility testing, circa 60,000 to 100,000 U.S. dollars and this could create time extensions to our milestones.

Summary-

Biomechanical- ASTM F543-07

most items less torque and cyclic loading have already been tested

- pull-out strength
- torque handle-driver
- torque driver-screw
- cyclic load with strain parameters for screw and suture-capture interface

Biocompatibility-ISO 10993

all raw materials used presently accepted by the FDA

- cytotoxicity
- sensitization
- irritation
- +/- genotoxicity
- +/-implantation

4.2. Manufacturing

Dr. Bennett has been working in partnership to produce the existing working prototype, and intends to continue the partnership in order to complete the FDA clearance process, produce the devices and continue ongoing product development. Dr. Bennett believes the manufacturer provides an ideal solution for Ziptek, given that remuneration for the manufacturer is entirely reliant upon the success of the Company in selling devices.

Working prototype are completed with a couple further needs:

- Finish driver;
- Switch handle 3-d printing material to medical grade;
- Switch driver material to medical grade;
- Steriize, package, "bubble-test" and test device
- Biocompatibility testing.

The latest calculations and tests indicate that Ziptek's device works under the necessary load and shear stress at the interface of the polymeric structure with the suture, to satisfy FDA requirements. The materials that are being utilized are presently use din orthopedic implant applications and we have utilized companies with FDA records to supply our raw material, especially in the resorbable, metals and suture domains.

Addendum

From the time of initial funding in March, 2014, Ziptek has been able to manufacture 13485 compliant implantable, commerical ready devices, package the device, perform biocompatibility testing, sterilization validation, shelf life and package testing with aging and degradation studies.

Ziptek has develop a copnsortium of disperse entities which contribute to the overall process.

They include:

TriRX Medical- Naples, FL.
screw, screw driver

Medical Murray- Lake Zurich, Illinois and Charlotte, North Carolina
Plugs, captures, assembly, packaging, sterilization 13485 certified

Galaz Biomedical and Ziptek Mexico Sa De Cv, Hermosillo, Sonora, Mexico
Orings and punches

Many manufacturing options exists- see options below with related cost.

OPTION 1

Ziptek or its subsidiaries do not engage in manufacturing activities Total cost is represented by the cost of outsourcing all components

OPTION 2

Ziptek outsources to TAUVEY the manufacturing of metallic parts and outsources the rest to others
Same cost as if outsourcing all components with the advantage of lower cost of metallic parts due to the relationship of Ziptek-Tauvex

OPTION 3

Ziptek invests in machinery to do some of the manufacturing operations taking advantage that TAUVEY already owns some of the equipment

Injection molder (22 ton) for captures (cleanroom compatible)	\$	
Injection molder (50-60 ton) for insert molding the handles (cleanroom compatible)	\$	option-15k Rapid Prototype
EDM sinker machine to make mold cavities and some operations on the driver shaft	\$	
Injection molds for captures and handle	\$	

CONFIDENTIAL

Tooling for assembly	\$	
Manufacturing facility (GMP FDA Compliant) 3000 sq ft with 1000 sq ft cleanroom	\$	option-rent and outsource cleanroom
Quality system establishment	\$	
	\$	
OPTION 4		
Ziptek invests in all manufacturing equipment and facility		
Injection molder (22 ton) for captures	<	
Injection molder (50-60 ton) for insert molding the handles	\$	option-15k Rapid Prototype
EDM sinker machine to make mold cavities and some operations on the driver shaft	\$	
Injection molds for captures and handle	\$	
Tooling for assembly	\$	
Manufacturing facility (GMP FDA Compliant) 3000 sq ft with 1000 sq ft cleanroom	\$	option-rent and outsource cleanroom
Quality system establishment	\$	
Swiss lathe CNC	\$	
Inspection equipment	\$	
CNC Vertical Machining Center	\$	Tauvex
Tooling for machining operations	\$	
	\$	

Sterilization and Packaging-ongoing

4.3. Sales Strategy

Buying patterns in the implantable soft-tissue repair device market are dictated by the surgeons who champion the devices they use in surgery to their hospitals, who then create a purchase order. The hospitals pay the invoices and are reimbursed by billing the insurance companies for the cost of the medical devices purchased.

The two primary channels companies can use in order to reach these orthopedic surgeons are through an independent distributor or through a direct sales force. Independent distributors represent various companies and various brands of products to their clientele. They charge a percentage of sales to medical device manufacturers for the distribution services they provide. In contrast, a direct sales force is a division of a device manufacturing company that sells, usually exclusively, the devices made by the manufacturing division of that same company. Ziptek intends to employ both strategies, initially targeting experienced surgeons directly and, from 2014, partnering with independent distributor networks to accelerate market share growth. We intend to initially focus on a regional approach with a small compact stream-lined sales force and implement a scientific advisory board of surgeon users for each state.

In discussion with nation and international distributors

4.3.1. Direct Sales Force

Ziptek initially intends to recruit two sales people (during Q2 2014) to identify and recruit experienced shoulder surgeons who will work on its scientific advisor board. Each experienced surgeon brought on board must provide feedback on the **ZipE®** devices and suggestions of any possible improvements. As a result, Ziptek aims to draw the attention of independent distribution firms and generate revenue early on. To date, Ziptek has contacted over 50 orthopedic surgeons with 20 showing a strong interest and anticipates an immediate signing of a minimum of 5 surgeons upon funding,

Simultaneous to the recruitment of experienced surgeons, Ziptek also aims to pursue a strategy of identifying a top industry expert/surgeon to use and endorse the **ZipE®** technology and Ziptek's devices. The profile of the type of person being targeted for this role is an experienced and reputable surgeon who is often associated with a university, teaches on the industry conference circuit, and has his/her research and findings published. Ziptek's top industry expert/surgeon would be expected to promote the technology and devices by using the devices in

surgeries performed in their own practise and speaking about the devices at annual orthopedic meetings (i.e. American Academy of Orthopedic Surgeons (AAOS)). These surgeons would also serve to educate those in the industry about Ziptek's technology and devices. By pursuing this strategy, Ziptek aims to gain credibility and publicity in a market with traditionally high barriers-to-entry as far as distribution is concerned. The Company aims to more quickly and easily realize market interest, increased sales, and a reputation for excellence via this strategy. Ziptek intends to use its connections in the industry and its superior technology and devices to attract such a high-profile surgeon.

4.3.2. Independent Distributor Network

A further step in Ziptek's sales strategy will be to partner with a local, regional, national and international network of independent distributors. This route to market would not be pursued immediately though, as Ziptek would likely benefit from first establishing itself in the market via its experienced surgeons and high-profile surgeon. This focus on surgeon experts/ reference centers is expected to ensure that the introduction and training for the new technology is well controlled.

Ziptek intends to pursue partnerships with reputable members of the independent distributor network because of their market knowledge and their direct access to, and pre-established reputation with, a large network of orthopedic surgeons. While distributors typically take approximately 25% of the sales price in any partnership, the increase in revenue and the range of distribution realized by Ziptek is likely to far outweigh this cost. Ziptek has identified on Linked-In a medical Device Independent Distributor Network and has been contacted by numerous independent distributors to provide support. Management, with funding, intends to use some of these proceeds to further this endeavor.

Ziptek has a database to all specialty orthopedic surgeons involved in Arthroscopy, Sportsmedicine and Shoulder and Elbow Surgery and will continue to pursue direct contact for educating these groups and the implementation of **ZipE® devices**.

FDA approved devices are accepted in areas outside of the United States and the company is in communications with distributors in Mexico, the Arab Gulf States, the Malaysian/Singapore area, South America, Turkey, the European Union and South Korean for potential implementation.

4.4. Marketing Strategy

In addition to the sales strategy outlined in section 4.3 above, Ziptek aims to develop awareness of its technology and products through its website, orthopedic exhibitions and presentations by surgeon users at sports medicine meetings.

4.4.1. Ziptek Website

Ziptek intends to use its website to market itself, attracting surgeons, distributors and patients to the site through search engine optimisation and search engine marketing.

Management intends Ziptek's website to serve four primary functions:

1. **Marketing:** a section of the website open to the general public to be used for advertising, public relations, and potentially featuring a merchant section that sells Ziptek's products;
2. **Engineer Design:** a secure team collaboration section in which device engineers can design and develop new technologies through the use of sophisticated reality animations and engineering software;

3. **Surgeon Education:** a secure section of the website where surgeons who use Ziptek's products would be able to educate themselves on Ziptek's technologies and the techniques for using such technologies (using state-of-the-art immersion-reality systems); and
4. **Inform Investors:** a section of the website, featuring both secure and unsecure sections, in which investors or potential investors would be able to find information on Ziptek's technologies, products and the Company as a whole.

By establishing a strong web presence, Ziptek expects to be able to reach a large audience through online advertisements, as well as provide interested parties with easy access to detailed information about the Company and its products. Finally, Ziptek intends to market to consumers directly and believes its registered trademark **ZipE[®], tissue repair and attachment solutions** could become a house-hold name which patients, in time ask for. "Did you have a ZipE[®] repair of your shoulder, knee, hip, elbow?"

Strategic associations through grants with Universities and Ziptek Mexico Sa De Cv.

Identified interested parties for surgeon introduction and training.

4.4.2. Orthopedic Exhibitions

Ziptek intends to take full advantage of the US orthopedic industry's three major exhibitions: American Academy of Orthopedic Surgeons (AAOS), Arthroscopy Association of North America (AANA) and American Orthopedic Society of Sports Medicine (AOSSM). At these large exhibitions, full complements of participants in the orthopedic industry gather to listen to guest speakers, attend workshops and learn about new technologies or surgical techniques and exhibit their goods, as well as ~ 10,000 orthopedic surgeons. Ziptek aims to attend these annual or bi-annual meetings in order to market its devices and technology to surgeons and other industry players. Additionally, Ziptek intends to eventually begin to sponsor educational meetings at the conventions. Long-term success for Ziptek will be dependent upon its commitment to the better of orthopedic care through education, research and scientific advisory boards. This is a strategy that many of the large companies utilize to maintain loyalty by their surgeon users. Additionally, many of these surgeons act as consultants and usually will only participate with a company if it appears that it is involved in the educational process, demanding equity and/or consulting fees..





5. Management and Employees

Dr. Bennett intends to serve as Chief Executive Officer of Ziptek for the early inception of Ziptek devices, yet, will acquiesce to industry professionals with funding and with time, retreating to an Executive Chairman of the Board to continue to maintain proper steering currents for Ziptek's growth and expansion. The Company will look to recruit a highly-qualified Chief Operating Officer (COO) immediately to manage the build-out of Ziptek's technology development platform. Several high-caliber COOs will be identified through executive-professional recruiting firms with funding, though not yet approached.

Additionally, Ziptek aims to recruit two salespeople during Q2 2014 to handle client relations, attend orthopedic exhibitions on behalf of Ziptek and recruit experienced surgeons. Ziptek expects to hire two administrative employees during 2014 to handle all back-office work (one of whom should be a book-keeper).

In addition to a strong management team, Ziptek will look to build a diverse and highly-skilled Board of Advisors, initially comprised of:

- Dr. William F. Bennett MD – CEO and Founder of Ziptek;
- Ramsés Galaz Mendez PhD – Owner of medical device manufacturing company Tauvex and a Biomedical Engineer;
- Paul Cuatrecasas MBA – Current CEO and Founder of financial advisory firm Aquaa Partners; Former CEO and Founder of Alegro Capital;
- High-profile orthopedic surgeon.

Consultants include; Gordon Harnack-FDA, Frijouf and Frijouf-Patent IP and various strategic international surgeons to include; William Murell-Dubai, and Martin Knight-EU.

Dr. William F. Bennett MD Biography

Dr. William Bennett is a highly-regarded, innovative and widely published orthopedic surgeon with over 22 years' experience in the field. He serves as a member of several national and international orthopedic societies, is affiliated with six hospitals and surgical centers in Florida, and has over 40 medical publications/abstracts/national-international presentations.

Dr. Bennett earned a BS from Wake Forest University and received an MD from the University of Connecticut Health Science Center in 1988. Thereafter he served as a surgical intern in Dallas, TX at Baylor University Medical Center, and as an orthopedic resident at University of South Florida in Tampa, FL, and at Texas Health Science Center in Houston, TX. He also completed fellowships in Switzerland and at the Los Angeles Orthopedic Institute, CA.

In 2006, Dr. Bennett was named as one of 'America's Top Surgeons' by the Consumer Council, and was also included in the Who's Who Physicians list.

5.1. Ramsés Galaz Mendez PhD Biography

Ramsés Galaz Mendez is an innovative and widely published biomedical engineer, with four patents applications for medical devices. He is currently Director and Owner of TAUVEV S.A. de C.V., a company which designs, manufactures and distributes medical devices. He is also Director of Research and Technological Innovation, and an Adjunct Professor at Instituto Tecnológico y de Estudios Superiores de Monterrey, teaching several biomedical engineering courses.

Ramsés gained a certification in Manufacturing Technology at the Society of Manufacturing Engineers, Detroit, Michigan, in 1998, following this with a degree in Mechanical Engineering and Management at Instituto Tecnológico y de Estudios Superiores de Monterrey, Mexico, in 1999. He was awarded his Masters in Mechanical Engineering at McGill University, Montréal, Canada in 2004, before gaining a Ph.D. in Biomedical Engineering, in 2008.

Between and during his studies, Ramsés worked as a Manufacturing Engineering Consultant at the Center for Integrated Manufacturing Systems, Monterrey, Mexico, 1996-99, and a Manufacturing Engineer and Production Supervisor at Cooper Industries in Chicago, Illinois, 1999-2000. He founded his company TAUVEY S.A. de C.V in 2004, and has been working as a Director there since. In 2008, Ramsés joined Tecnológico y de Estudios Superiores de Monterrey as an Adjunct Professor, and became Director of Research and Technological Innovation in 2011, though his key focus remains with Tauvey.

5.2. Paul Cuatrecasas MBA Biography

Paul Cuatrecasas is the Founder and CEO of Aquaa Partners. Previously he was the Founder and a Partner of Alegro Capital (www.alegrocapital.com) from 2003-2010. Previous to Alegro, Paul was the co-founder and Managing Director of ARC Associates from 1993-2003. (ARC Associates was a leading independent London-based TMT mergers and acquisitions advisory practice with a full range of blue chip and entrepreneurial clients including Sonera, Cable & Wireless, Apax, Marconi, Equant, ICL, KKR, Permira and BT, amongst others).

Paul has directly or indirectly completed over 35 M&A transactions around the world worth over \$6 billion and over 40 corporate finance advisory and strategic consultancy assignments. He has directly or indirectly originated and structured over 15 private placements of equity capital raising over \$500 million. He also directed the ARC investment programme and achieved a historical professional investment track record over 50% IRR since 1994.

Prior to ARC Associates, Paul was a Senior Associate with Arkwright Capital (ex-Bain & Co. partners), an M&A and Corporate Finance advisory firm in London (1991-1993) and with GE Capital in their LBO and Restructuring Group in New York (1989-1991).

Paul is a Non-Executive Director of Motive Television plc.

He holds an MBA from Columbia University where he was awarded the Roswell C. McCrea Scholarship and a BA from Wake Forest University. Paul holds dual US and UK citizenship and speaks fluent Spanish.

5.3. Hiring Plan

As both manufacturing and much of sales/distribution are likely to be outsourced, Dr. Bennett believes Ziptek will be a highly scalable business, requiring minimal additional staff as the Company grows.

Forecast Hiring Plan by Year

	Avg Salary	2014	2015	2016	2017	2018	2019
CEO	\$200,000	1	0	0	0	0	0
COO	\$300,000	0	1	0	0	0	0
Sales	\$100,000	2	1	2	2	2	2
Admin	\$50,000	2	1	2	2	2	2
Total		5	3	4	4	4	4
Cumulative Total		5	8	12	16	20	24

Source: Management

6. Financials

6.1. Basis of Preparation

Management's forecast model assumes the following:

- Revenue begins to be generated from Q3-4 2014;
- Required FDA clearances are received in a timely manner;
- Prototype and then product manufacturing performed by manufacturer under terms comparable to those being presently discussed (all manufacturing outsourced);
- Sale of just the 16 initially identified orthopedic knot-less devices – all revenue from sale of further orthopedic constructs, screws and non-orthopedic devices can be considered as pure upside to the projections shown below; and
- Entry into the US market only – all future international growth can also be considered as pure upside to the projections shown below.

6.2. Projected Income Statement

As Ziptek's devices achieve FDA clearance and are marketed on a national scale, Ziptek anticipates being able to capture significant market share and generate revenue quickly due to the distribution and sales groundwork laid throughout 2014. The profits forecast in 2014 reflect Ziptek's potential to achieve rapid profit growth given the successful completion of its initial funding and operational goals.

Income Statement Summary (FYE 31 Dec 2013-2017)* update needed

\$m (y/e 31 Dec)	2013	2014	2015	2016	2017
Sales	0.0	10.6	32.3	61.7	104.6
Growth	n/a	n/m	205%	91%	69%
Cost of Sales	0.0	0.8	8.4	17.7	31.3
Gross Profit	0.0	9.7	23.9	44.0	73.3
Gross Margin ⁽¹⁾	n/a	92%	74%	71%	70%
Total Operating Expenses	1.0	4.1	4.6	5.2	5.7
EBITDA	(1.0)	5.7	19.3	38.9	67.5
EBITDA Margin	n/m	54%	60%	63%	65%
Depreciation	0.0	0.0	0.0	0.0	0.0
EBIT	(1.0)	5.7	19.3	38.9	67.5
EBIT Margin	n/m	54%	60%	63%	65%

(1): Gross margin is forecast to decline from 92% in 2013 to 74% in 2014 due to the 25% sales fee charged by the independent distributor network Ziptek intends to partner with from 2014 onwards

Source: Management

6.2.1. Sales Forecast

During 2014, Ziptek assumes it will bring on 30 experienced rotator cuff surgeons and 20 experienced knee/elbow and ankle surgeons who perform 100 cases in each respective discipline using the respective products (with an initial focus on rotator cuff surgeons). Ziptek already has verbal agreements with four experienced surgeons who perform surgery in at least 300 cases per year, to immediately begin using the devices upon clearance.

During 2015, Ziptek intends to bring onboard a high-profile surgeon to help market Ziptek's products. On an annual basis, there are approximately 510,000 rotator cuff repair cases in just the United States. The combination of the acquisition of a high-profile surgeon and the Company's internal sales team is expected to allow Ziptek to capture 5% of the untapped US subscapular market and 1% of the rotator cuff market in the US.

During 2016, Ziptek expects its level of sales and the high-profile surgeon to attract the attention of a large portion of average-volume surgeons, as well as members of the independent distributor network. As a result, Ziptek believes it shall find a significant number of average-volume surgeons, who typically follow the practices taught by a high-profile surgeon in the industry, using its devices. The adoption of Ziptek's devices by the average-volume surgeon should provide Ziptek with a significant boost in market share, as these average-volume surgeons account for the majority of surgery volume. Also as a result of the high-profile surgeon's influence, Ziptek intends to partner with an independent distributor during 2016, allowing the Company to further grow market share in the US.

Ziptek intends to go to market with its initial 16 products between 2014 and 2017, in general targeting the higher volume markets first to build revenue as quickly as possible. Conservative market share assumptions have been made for each of these markets to reflect the above strategy.

6.3. Projected Balance Sheet Summary-* update needed

Balance Sheet (31 Dec 2013-2017)

\$m (as at 31 Dec)	2013	2014	2015	2016	2017
Current Assets					
Cash	0.8	3.6	14.4	36.8	76.5
Accounts Receivable	0.0	0.9	2.7	5.1	8.7
Inventory	0.0	0.5	1.3	2.6	4.4
Total Current Assets	0.8	5.0	18.4	44.5	89.6
Long-term Assets					
Long-term Assets	0.0	0.0	0.0	0.0	0.0
Total Assets	0.8	5.0	18.4	44.5	89.6
Current Liabilities					
Accounts Payable	0.0	0.1	0.9	1.7	2.9
Current Borrowing	0.0	0.0	0.0	0.0	0.0
Total Current Liabilities	0.0	0.1	0.9	1.7	2.9
Long-term Liabilities	0.0	0.0	0.0	0.0	0.0
Total Liabilities	0.0	0.1	0.9	1.7	2.9
Paid-in Capital	1.9	1.9	1.9	1.9	1.9
Retained Earnings	(1.1)	3.0	15.6	40.9	84.8
Total Capital	0.8	4.9	17.5	42.8	86.7
Total Liabilities and Capital	0.8	5.0	18.4	44.5	89.6

Source: Management

The Company does not expect any debt going forward. The above balance sheet takes into account \$2 million funds raised, net of professional fees to be paid upon completion.

Accounts receivable and payable are assumed at 30 days. 15 days' worth of inventory is assumed.

6.4. Projected Cash Flow Summary

After the current round of financing, Ziptek intends to finance its own expansion by continually reinvesting its profits into the Company.

Cash Flow Statement (FYE 31 Dec 2013-2017)-*update needed

\$m (y/e 31 Dec)	2013	2014	2015	2016	2017
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EBITDA	(1.0)	5.7	19.3	38.9	67.5
Decrease/(Increase) in Accounts Receivable	0.0	(0.9)	(1.8)	(2.5)	(3.6)
Decrease/(Increase) in Inventory	0.0	(0.4)	(0.9)	(1.2)	(1.8)
Increase/(Decrease) in Accounts Payable	0.0	0.0	0.9	0.8	1.2
Net Cash Flow from Operations	(1.0)	4.4	17.5	36.0	63.3
Proceeds/(Repayment) of Borrowings	0.0	0.0	0.0	0.0	0.0
New Equity	1.9	0.0	0.0	0.0	0.0
Net Cash Flow from Financing	0.0	0.0	0.0	0.0	0.0
Capital Expenditure	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)
Tax Paid	0.0	(1.6)	(6.8)	(13.6)	(23.6)
Net Cash Flow for the Period	0.8	2.8	10.8	22.4	39.7
Cash and Equivalents, Beginning of Period	1.8	0.8	3.6	14.4	36.8
Cash and Equivalents, End of Period	0.8	3.6	14.4	36.8	76.5

**Source: Management*

**The above cash flow statement shows the \$2 million funds raised, net professional fees to be paid upon completion and expenses incurred in 2012, in 2013's "Cash and Equivalents- Beginning of Period".*

7. Funding

7.1. Use of Proceeds

Ziptek is looking to raise up to \$2 million to cover the following key expenses prior to revenue generation commencing (amounts are management's current best estimates):

• Patent costs	\$525k
• FDA clearance costs	\$60k-100
• Prototype cost	\$25k
• Staff costs	\$610k
• Professional fees	\$350k
• Other general operating expenses	\$230k
• Buffer for unforeseen expenses	\$200k

7.2. Company Ownership

Ziptek is a newly-formed company that is currently wholly-owned by Dr. William Bennett. Dr. Bennett has funded all the Company's costs to date and intends to keep a majority stake in the Company following the current fundraising.

7.3. Exit Opportunities

There are multiple exit strategies afforded Ziptek. Ziptek's technology development platform is poised to capture market share quickly in the orthopedic rotator cuff repair market and with its continued focus on intellectual property(IP) protection..... and the multiple domains it covers outside of knotless devices (i.e., bone screws and its applicability to soft-tissue repair or attachment of tissue to implants in the medical, veterinary or dental field)..... it is positioned to have its IP bought in part or in whole, outright by a strategic investor. In addition, Ziptek will have the ability to license in part or in total to any of a multitude of companies, and finally its technology can be sold in part or in total, as well.

However, Ziptek feels that it is well positioned to capture market share and is thus preparing to enter the market to do just that. The management team plans to sell the Company in or around 2017, depending on market conditions; yet it may re-evaluate at that time and could take any number of other positive paths. Potential acquirers include large global orthopedic device companies, such as Zimmer and Medtronic, amongst others, neither of which currently has a soft-tissue repair division.

8. Appendix

8.1. William F Bennett MD- Go to End

2. Ramses Galaz Mendez

Education

Society of Manufacturing Engineers, Detroit, Michigan, 1998

- Certified Manufacturing Technologist

Instituto Tecnológico y de Estudios Superiores de Monterrey, México, 1999

- B.Sc. Mechanical Engineering and Management
- Minor in Artificial Intelligent System

McGill University, Montréal, Québec, Canada

- Masters in Mechanical Engineering, 2004
 - Thesis: “Structural optimization of a coronary stent interacting with a hyperelastic arterial wall”
- Ph.D. Biomedical Engineering, Montréal, 2008
 - Thesis “A computational analysis to assess the coronary atherosclerotic plaque vulnerability to rupture due to hemodynamic effects”

Experience

- Center for Integrated Manufacturing Systems, ITESM, Monterrey Mexico; Manufacturing Engineering Consultant, 1996-99
- Cooper Industries, Bussmann Division, Chicago, Illinois; Manufacturing Engineer and Production Supervisor, 1999-2000
 - Supervised 60 team workers and floor supervisor to produce electric line items worth \$23M USD in annual sales
 - Performed Lean Manufacturing, Kaizen, ERP Systems projects within the plant. Outsourced an entire production line to a plant in Cd. Juarez, México
- McGill University and Montreal Heart Institute, Cardiovascular Engineering Laboratory, Montreal, Canada; Biomedical Engineering Researcher, 2002-2008
- Instituto Tecnológico y de Estudios Superiores de Monterrey, Monterrey Campus (Department of Biomedical Engineering – Faculty of Medicine) and Sonora Norte Campus (Department of Mechatronics Engineering); Adjunct Professor, 2008-present
- Instituto Tecnológico y de Estudios Superiores de Monterrey, Sonora Norte Campus; Director of Research and Technological Innovation 2011-present
- **TAUVEX S.A. de C.V; Director / Owner, 2004-present**
 - A company with the purpose of designing, manufacturing and distributing class I, II and III medical devices to the Latin American market

Affiliations

- President of the Mexican Chapter of the Society of Manufacturing Engineers (SME) 1998 – 1999
- Member of the American Society of Mechanical Engineers since 1996
- Member of the 2011 editorial board of the newspaper “EL IMPARCIAL”
- Member of the Technical Evaluating Committee of CONACYT – FOMIX – Sonora State Government July 2011 – present

Achievements

Journals

- Brunette J., Mongrain R., Laurier J., **Galaz R.**, Tardif J.C., 3D flow study in a mildly stenotic coronary artery phantom using a whole volume PIV method, *Journal of Medical Engineering & Physics*, 30(9):1193-1200, 2008
- Ranga A., Mongrain R., **Galaz R.**, Biadillah Y., Cartier R., Large displacement 3D structural analysis of an aortic valve model with nonlinear material properties. *Journal of Medical Engineering & Technology*, 28(3):95-103, 2004

Book Chapters

- Mongrain R., Leask R., **Galaz R.**, Ranga A., Brunette J., J.C. Tardif, O.F. Bertrand, Image Based Biomechanics of Coronary Plaque, *Plaque Imaging: Clinical analysis and its applications using MR, CT, Ultrasound and Microscopic.*, eds J. Suri, C. Yuan, D. Wilson, S. Laxminarayan, IOS Press, Amsterdam, 2005
- **Galaz R.**, Mongrain R., Pazos V., Leask R., Tardif J.-C., Fluid-structure interaction computational modelling of realistically reconstructed atherosclerotic plaques to assess their vulnerability to rupture based on collagen fibre architecture. Publisher: MEDIMOND, Bologna, Italy. (Book contribution of the Proceedings of the 5th World Congress of Biomechanics)

Conferences

- **Galaz R.**, Mongrain R., Ranga A., El-Khoury N., Tardif J.C., Structural analysis of a coronary stent interacting with an hyperelastic arterial wall, *Endocoronary Biomechanics and Restenosis Symposium*, Paris, France, 2003
- **Galaz R.**, Mongrain R., Ranga A., Brunette J., Bertrand O.F., Tardif J.C., FEA Structural Analysis of a Coronary Stent Interacting with an Hyperelastic Wall, *Proceedings of the 1 International New Cardiovascular Congress*, Québec City, Sept 10-11, Abstract P-11, p 68, 2004
- **Galaz R.**, Mongrain R., Ranga A., Brunette J., Bertrand O.F., Tardif J.-C., FEA Structural Analysis of a Coronary Stent Interacting with a Hyperelastic Arterial Wall, *Les Dix-septièmes Entretiens du Centre Jacques Cartier, Nano-biointerfaces pour les dispositifs intelligents*, Oct 7-8, Montréal, 2004
- **Galaz R.**, Pazos V., Mongrain, R., Leask R., Tardif, J.C., A numerical model of the rupture mechanics of the fibrous cap in atherosclerotic plaques, *PACAM IX - Ninth Pan American Congress of Applied Mechanics*, Mérida, Yucatán, México, January 2-6, 2006
- **Galaz R.**, Mongrain R., Pazos V., Leask R., Tardif J.C., Modelling of Hemodynamic Stress Effects on Rupture Mechanics and Fibrous Cap Collagen Architecture of Atherosclerotic

Plaques, Book of the Proceedings of The IASTED Conference on Modelling and Simulation, Montreal, 2006 Editor(s): R. Wamkeue 630 pages, ISBN: 0-88986-592-2

- **Galaz R.**, Mongrain R., Pazos V., Leask R., Tardif J.C., Modelling the stress condition dependant anisotropy and rupture mechanics of atherosclerotic plaques, Proceedings of the 2006 ASME Summer Bioengineering Conference, Amelia Island, Florida, 2006
- **Galaz R.**, Mongrain R., Pazos V., Leask R., Tardif J.C., Fluid-structure interaction computational modeling of realistically reconstructed atherosclerotic plaques to assess their vulnerability to rupture based on collagen fiber architecture # 6721, Proceedings of the 5th World Congress of Biomechanics, Munich, Germany, 2006
- **Galaz R.**, Mongrain R., Pazos V., Leask R., Tardif J.-C., Fluid-structure interaction computational modelling of realistically reconstructed atherosclerotic plaques to assess their vulnerability to rupture based on collagen fibre architecture, Journal of Biomechanics Vol. 39, 2006 Supplement 1 [abstract]
- **Galaz R.**, Mongrain R., Pazos V., Leask R., Tardif J.C., Transient Fluid Structure Interaction Computational Analyses to Assess Patient Specific Atherosclerotic Plaque Vulnerability, CompMed SSH Symposium on Computer Simulation in Medicine 2007, Montreal, Quebec, Canada, 2007
- **Galaz R.**, Mongrain R., Pazos V., Leask R., Tardif J.C., Computational sensitivity analyses to assess atherosclerotic plaque vulnerability, 21st Canadian Congress on Applied Mechanics, Toronto, Ontario, Canada, 2007
- **Galaz R.**, Mongrain R., Pazos V., Leask R., Tardif J.C., Computational analysis to assess atherosclerotic plaque vulnerability due to hemodynamic effects, Proceedings of the 2007 ASME Summer Bioengineering Conference, Keystone, Colorado, 2007
- **Galaz R.**, Mongrain R., Leask R., Tardif J.C., Patient-specific coronary plaque vulnerability analyses based on 3D computer models of the mechanical interaction between hemodynamics and plaque constituents., Accepted abstract at the Canadian Cardiovascular Congress 2007, Quebec City, Canada, 2007
- **Galaz R.**, Mongrain R., Leask R., Tardif J.C., Computational fluid-structure interaction studies to assess the mechanical fatigue vulnerability of patient specific coronary plaques, Congres de la Recherche en Biomécanique Endocoronaire EBR2008, Marseille, France, April 2008
- Mongrain R., **Galaz R.**, Ranga A., El-Khoury N., Bertrand O.F., Tardif J.C., Structural Analysis of a Coronary Stent Interacting with the Vascular Wall during Angioplasty. Archives of Physiology and Biochemistry, 111, Supp. p. 8, 2003
- Mongrain R., **Galaz R.**, Bertrand O., Deep wall injury due to atherosclerotic plaque reconfiguration during angioplasty and in-stent restenosis, 5th World Congress of Biomechanics, Munich, Germany, 2006
- Mongrain R., **Galaz R.**, Bulman-Fleming N., Ruzzeh B., Bertrand O.F., Tardif J.-C., Multidisciplinary Design Optimization of Stents, Proceedings of the ASME Summer Bioengineering Conference ISBN 0-9742492-1-1, Vail, Colorado, June 22 - 26, 2005.
- Mongrain R., **Galaz R.**, Ranga A., El-Khoury N., Bertrand O.F., Tardif J.C., Structural analysis of a coronary stent interacting with the vascular wall during angioplasty, XXVIII Congres de la Société de Biomecanique, Poitiers, France, 2003

- Pazos V., Mongrain R., **Galaz R.**, Leask R. Tardif J.C., Development of an atherosclerotic phantom with a lipid inclusion, Proceedings of the 5th World Congress of Biomechanics, Munich, Germany. 2006
- Mongrain R., Faik I., Ruzzeh B., **Galaz R.**, Bertrand O., Optimization of drug-eluting stents using numerical simulations, Congres de la Recherche en Biomécanique Endocoronaire EBR2008, Marseille, France, April 2008

Invited Lectures

- Biomecánica, Congreso Internacional de Ingeniería Mecánica, ITESM, Monterrey, México. October 2003
- Onceavo Día del Ingeniero Mecánico, Biomecánica, ITESM, Monterrey, México. April 2004.
- Optimización del diseño de prótesis endovasculares, III Congreso Internacional de Ingeniería Biomédica, ITESM, Monterrey, Mexico. April 2007
- Interacción Fluido Estructura y Biomecánica de Tejidos, III Congreso Internacional de Ingeniería Biomédica, ITESM, Monterrey, Mexico, April 2007
- Diseño de implantes cardiovasculares, VI Simposium de Ingeniería Biomédica, ITESM, Monterrey, Mexico, March 2010
- Aplicación de análisis de elemento finito al diseño de dispositivos médicos. VII Congreso Internacional de Ingeniería Biomédica, ITESM, Monterrey, Mexico, March 2011

Awards

- “Academic excellence teaching award”, issued by Instituto Tecnológico y de Estudios Superiores de Monterrey, May 2010

Patents

- Bifurcated stent with a side branch protrusion. Mongrain R., Galaz R., Bertrand O., Submitted to the Office of Technology Transfer of McGill University, 2007, Montreal, Canada
- “Dispositivo intravaginal de diseño anatómico y colapsable para el automuestreo de células epiteliales del cérvix”. Submitted to the Instituto Mexicano de la Propiedad Industrial. August 2009. Registro MX/2009/057823, Expediente de Patente MX/a/2009/009553
- Anatomically designed and collapsible intravaginal device for self-sampling and containment of cervical epithelial cells. Application # PCT/IB2010/002057. World Intellectual Property Organization (WIPO). August 20, 2010
- “Diseño industrial de tornillo ortopédico”. Submitted to the Instituto Mexicano de la Propiedad Industrial. December 2010. Application number pending

Grants

- Fondo Mixto CONACYT – Sonora State Government. Issued for TAUVE X S.A. de C.V. Grant proposal title “Propuesta para el equipamiento de un laboratorio de diseño de nuevos productos en una empresa manufacturera de dispositivos medicos clase I y II”, SON-2007-CO2-79571. Total grant received \$92,508 USD. January 2008
- CONACYT INNOVAPYME 2010, Innovation stimulus program. Issued for TAUVE X S.A. de C.V. Grant proposal title “Optimización topológica de tornillos ortopédicos para mejorar su biocompatibilidad”. Total grant funds received \$163,548 USD. June 2010

- CONACYT INNOVAPYME 2011, Innovation stimulus program. Issued for TAUVEY S.A. de C.V. Grant proposal title “Desarrollo de nuevos dispositivos médicos expandibles utilizados en varios procedimientos en anestesiología regional y obstétrica, cardiología, radiología y medicina del dolor”. Total grant funds received \$342,213 USD. June 2011
- CONACYT PROINNOVA 2011, Innovation stimulus program. Issued for TAUVEY S.A. de C.V. Grant proposal title “Diseño y desarrollo de un nuevo método e instrumentos de cirugía mínimamente invasiva para reconstrucción y reparación de tejidos”. Total grant funds received \$276,503 USD. December 2011
- Fondo Mixto CONACYT – Sonora State Government. Issued for TAUVEY S.A. de C.V. Grant proposal title “Desarrollo de prototipos y pruebas clínicas de un nuevo dispositivo para la automuestreo de células epiteliales del cérvix para la detección del cáncer cervico-uterino y VPH”. Total grant funds received \$60,000 USD. December 2011

Languages

- Fluent in Spanish and English; conversational French

FDA consultants

Shayne Gad- Toxicologists- Raleigh, North Carolina

Janice Hogan-Attorney-Engineer-Philadelphia, PA

Andrea Siller-Engineer- Hermosillo, Sonora, Mexico

Medical Murray-OEM

[Street Address]
[City, ST ZIP Code]
[Telephone]
[Website]
[Email]

– WILLIAM F BENNETT MD

Board Certified Orthopedic Surgeon
Orthopedic Specialty Societies-
Arthroscopy Association of North
America

American Orthopedic Society for
Sportsmedicine

International Cartilage Repair
Society

Expert Shoulder and Knee Surgeon

PRP and Adult Stem Applications

Founder Medical Device Company x 2

Publications- Multiple- Peer
Reviewed

Patent Holder- Multiple Patents

Executive and Administrative Skills

Orthopedic Surgery Practice- All
aspects, billing, collections, IT

inventory, logistics,
marketing, internet, management

Medical Device Company-CEO
United States

Medical Device Company-CEO
Mexico

Federal Grant Winner 2011

Angel Investment- Successfully
raised \$500,000 in funds for start-up

Medical Device Company- March
2014

**4) FO
UNDER-
BENNETT
ORTHOPEDI
CS AND
SPORTSME
DICINE**

1995-2014, Sarasota, Florida USA

-Started respected orthopedic surgery practice 1995.
Strategically adapted to changing -competitive
landscapes.

- Supervised office staff and physicians.

-Have privileges at 3 distinctly, diverse, competing
health care provider systems.

-An ability to work with diverse hospital teams,
nursing, medical staff, physicians, assistants, medical
representatives and medical device implants

**5) FO
UNDER-
ZIPTEK LLC**

2011-present, Sarasota, Florida USA

Founded

- this medical device company related to tissue
repair using a knot-less technique

based upon multiple issued patents

Patents

- Application strategy-20 years

- Issued-5

-Pending-5 including European Union and
Mexico

Global soft tissue repair device market analysis

-Business plan development

-Financial Modeling

-Start-up strategy

-Funded 500k-Angel Investor

8) UN
DERGRADUA
TE:
B.S.

9)

WAKE
FOREST
UNIVERSITY
10)

WINSTON-
SALEM,
NORTH
CAROLINA
-1984
11)

12) GR
ADUATE:
13)

M.D.
14)

UNIVERSITY
OF
CONNECTIC
UT
15)

SCHOOL OF
MEDICINE -
1988
16)

17) PO
STGRADUAT
E:

INTERNSHIP
18)

DEPARTMEN

CONFIDENTIAL

	Multiple International Presentations Developed Foreign Relationships- Majority ownership Foreign Company-42 countries visited
	Board Member Sanderling Club- 2010-2012 Laurel Oaks Country Club-Social Member

HONORS AWARDS:

Residency-1991
Scholarship /Highest OITE Score

Anatomy Proctor
Medical School
Surgical Scholar

Sigma Xi-Research Society

Undergraduate
Phi Beta Kappa
Magna Cum Laude
Honors

PROFESSIONAL COURSES:

Ilizarov Tampa, FL. 1990

Midas Rex Clearwater, FL. 1990

Orthotics/Pros Dallas, TX. 1990

AAOS U. Ext. San Diego, Ca. 1991

Adv. AO, Davos, Switzerland 1991

AAOS Ped. Rev. Palm Spr, Ca. 1992

AOSSM Basic Science Ch, IL. 1993

AAOS Men. Allografts S. F. Ca. 1993

AANA Arth. Shoulder N.M. 1993

AOFAS Foot, Sun Valley, Idaho 1994

Controversies in Surgery of the
Shoulder/Knee, H. Head, S.C. 1994

Arthroscopic Surgery of the
Shoulder, San Diego, Ca. 1995

AANA, San Diego, Ca. 1997

AOSSM, Sun Valley, Idaho 1997

AAOS, 1991-2002
Specialty - ASES
ANNA
AOSSM

AOSSM, MARQUEE SHOULDER,
Orlando, FL. 1998

AANA, Orlando, FL.1998

ESSKA, Nice, France 1998

AANA, Vancouver, B. Columbia 1999

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ISAKOS, Washington, DC, 1999

FOS, Destin, FL. 19989

MRI Imaging In Sportmedicine, S. F. 2000

AANA Annual- 2000

AOSSM Annual-2003

ANNA Annual- 2004

Zimmer-Quad Sparing Knee-
Orlando-2005

Zimmer-Minimally Invasive Hip-
Tucson-2005

Controversies Shoulder Surgery
Newport Beach, Ca. 2005

Encore Reverse Shoulder
Prosthesis-Rosemont, Il.2006

Tornier Reverse Shoulder
Prosthesis- Orlando, 2006

Current Concepts Shoulder, ASES-
Orlando, 2006

AAOS Annual- 2006
Specialty-
ASES

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AANA

AOSSM

Current Concepts- Arthroplasty 2006

Las Vegas

41)

Annual Meeting- Miami 2006

ICRS

42)

AANA- Annual 2006

AOSSM-Annual 2006

Shoulder Course- Frankle, Florida 2006

AAOS- San Diego, 2007

Specialty Day-

ASES

AANA

AOSSM

ICL Proximal Humerus Fractures

GraftJacket® Matrix Science

Symposium, 2Nd Annual,

Chicago, IL.2007

Encore Product Training Workshop

Cadaver Lab, Las Vegas, 2007

World Congress Cartilage Repair

Warsaw, Poland, 2007

Advanced Cartilage Regeneration

Techniques, Philadelphia, 2007

AAOS Annual Meeting San

Francisco, 2008

Biennial Shouder/Elbow

AAOS/ASES, Orlando, 2008

AOSSM, Orlando, 2008

Current Concepts Joint

Replacement, Or, FL, 2009

AAOS Annual Meeting, New Orleans,

La, 2009

ASES Specialty Day, New Orleans,

La, 2009

AOSSM, Specialty Day, New Orleans,

LA, 2009

AANA Specialty Day, New Orleans,

LA, 2009

AANA Fall Meeting , Phoenix,

Arizona, 2010

AAMG, Spring Meeting, Hollywood,

FL, 2010

ICRS World Congress, Barcelona.

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Spain, 2010

AAMG Fall Meeting, Las Vegas, NV,

2011

Biomet Unicompartmental Oxford,

Manhattan, NY 2011

Current Concepts Joint

Replacement, Orlando, FL 2011

ICRS, Hip Focus Group, Zurich,

Switzerland, 2011

Bi-Ennial AAOS/ASES Meeting-

Boca Raton, 2012

AAMG , Stem Cell, MTG, Hollywood ,

FL, 2012

ICRS World Congress, Montreal,

Canada, 2012

AOSSM Annual Meeting, Baltimore ,

Maryland, 2012

AAOS ANNUAL- CHICAGO ILLINOIS

2013

AANA Annual, LV Nevada 2013

ICRS Stem Cells and Cartilage Regeneration

Bologna, Italy, 2013

PROFESSIONAL ORGANIZATIONS:

American Orthopedic Society for

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Sportsmedicine

Active

Arthroscopy Association of North

America-

Active

International Cartilage Repair

Society

Active

American Academy Orthopaedic

Surgeons

Fellow

American Board Orthopaedic

Surgeons

Certified

AO Alumni Association

LICENSURE:

Florida-11/10/89

#56557

Texas-2/28/92

#J0806

California-3/3/93

#G076044

Lectureship/Faculty/Instructor/Appointments:

43) ED Smith Lectureship- UTHSC, Houston, Tx 1995

The Shoulder and Elbow-Current Concepts

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The Stiff Shoulder

Massive Rotator Cuff Tears

- 2) ISAKOS- Washington, D.C. 1999

Electronic Media in Sportsmedicine

- 3) AANA LEARNING CENTER- Chicago, IL.

Associate Master Instructor

1999, 2000, 2001

- 4) Shoulder Controversies- UCI, Irvine, Ca.
2005

Arthroscopic Subscapularis

Arthroscopic Pulley

- 5) American Orthopedic and Sportsmedicine

Society- Council of Delegates-Florida
2005-08

SCIENTIFIC EXHIBITS:

1. Bennett WF: Subscapularis, Medial and Lateral Coracohumeral Ligament Insertion Anatomy. Arthroscopic Appearance and Incidence of the "Hidden" Rotator Interval Lesion. AAOS Annual Meeting, Orlando, FL. 2000

PATENTS:

Issued prior to 2014

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Z i		Knotless device that is used for the arthroscopic repair of rotator cuffs and far cortex fixation (covers two devices)
	#60130	
Z i		Method patent for far cortex fixation using knot-less devices –
	#62068	
Z i		Knotless device that is used for the repair of all soft tissue by using a tissue restraining member
	#64917	

Pending-

Mexico	9/2013/004662	04/29/2013	in action
Europe	11837011-3	5/29/2013	in action
PCT 2013	US13/63277	12/5/2013	
	-final engineering to go global (national phase) in		March 2015
Mexico	MX/a/2015/004243	04/01/2015	applied
Europe			
Columbia	15-91431	05/01/2015	applied

New Patents-2014 and forward

US 1 B2	12/912,313	10/26/2010	issued August 26 th 2014	Patent# 8,814,904
US2	13/281,963	10/26/2011	issued September 30, 2014	Patent# 8,845,686
US3	13/664,717	10/26/2012	allowance exp. 2015	

New Filings, New Material-2014 and forward

Include screw, driver tip, capture pusher, surgical method and suture protuberance method

PCT 2014	14/22973	March 2014	pending search
US	14203841	March 2014	pending
US	2984538	March 2014	pending

New Filings-

Divisional	14338798	July 2014	pending
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MEDICAL DEVICE COMPANY:

Ziptek LLC	Founder2011
Ziptek Mexico Sa De Cv	Founder 2014
ZipE Registered Trademark	2011
Ziptek 1 st Time Exhibitor AAOS Annual Meeting	2013

GRANTS:

Federal Grant Success Mexican Conacyt	2011
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EDITORIAL:

Reviewer- Arthroscopy Journal	1995-2006
Editorial Board Journal of Arthroscopy	2001-2006

BIBLIOGRAPHY-BOOKS:

1. The Athlete in You: A Sportsmedicine Self-Care Guide
2. Doctors: Understanding Finding and Paying for Medical Care

PUBLICATIONS:

Hallisey, MJ, Doherty, N, Bennett, WF, Fulkerson, JP: Anatomy of the Junction of the Vastus Lateralis Tendon and the Patella. J.B.J.S. 69A(4) April 1987 p545-549

Bennett, WF, Doherty, N, Hallisey, MJ, Fulkerson, JP: Insertion Orientation of Terminal Vastus Lateralis Obliquus and Vastus Medialis Obliquus Muscle Fibers in Human Knees. Clinical Anatomy. 6:129-134, 1993

Bennett, WF, Gerber, C: Operative Treatment of the Rheumatoid Shoulder. Current Opinion in Rheumatology 6:177-182, 1994 p177-182

Bennett, WF, Browner, B: Tibial Plateau Fractures: Associated Soft Tissue Injuries. J. of Orth Trauma, June 1994 p183-188

Bennett, WF: Lateral Ankle Sprains: Part I. Anatomy, Biomechanics, Diagnosis and Natural Sequelae Orth Review Vol.23 No.5, May 1994 p381-387

Bennett, WF: Lateral Ankle Sprains: Part II. Treatment of Acute and Chronic Injuries. Orth Review, June Vol. 23 No. 6, June 1994, 504-510

Bennett, WF: A Technique for Reconstructing the Calcaneofibular Ligament in Chronically Unstable Lateral Ankle Sprains. Developed in a Cadaveric Model Journal of Orthopaedic Technique, Vol.2 No.4 December 1994 p139-154

Bennett WF, Sisto D: Arthroscopic Lateral Knee Portals Revisted. The Safe Zones American Journal of Orthopaedics, July, 1995

Bennett WF, Sisto D: Arthroscopic Lateral Release; A Cadaveric Study of Open and Arthroscopic Anatomy. Electronic Journal of Orthopaedics. www.ejo.org 1996

Bennett WF: The Specificity of the Speed's Test. Arthroscopy. Nov-Dec, 1999, 484.

Bennett WF: Sequential Arthroscopic Release of the Shoulder in Adhesive Capsulitis. Arthroscopy. March Vol. 16 2000 p142-151

Bennett WF: Techniques for Visualizing Rotator Interval Lesions and the Bicipital Sheath. Arthroscopy. Jan Vol 17 2001, 107-111

Bennett WF: Subscapularis, Medial and Lateral Coracohumeral Ligament Insertion Anatomy. Arthroscopic Appearance and Incidence of the "Hidden" Rotator Interval Lesion. Arthroscopy. Feb. Vol. 17 No.2, 2001

Bennett WF: Arthroscopic Repair of Complete Supraspinatus Tears. 2 Year Follow-up. Arthroscopy, March 2003

Bennett WF: Arthroscopic Repair of Complete Subscapularis Tears. 2 Year Follow-up. *Arthroscopy*, February 2003

Bennett WF: Arthroscopic Repair of Complete Anterosuperior Rotator Cuff Tears. 2-Yr F/U Arthroscopy, January 2003

Bennett WF: Arthroscopic Repair of Massive Rotator Cuff Tears. 2-Year Follow-up Arthroscopy, April 2003

Bennett WF: Arthroscopic Bicipital Sheath Reconstruction-(Pulley Repair). 2-4 Year Follow-up Arthroscopy, November 2004

Bennett WF: Correlation of the Slap lesion with lesions of the medial sheath of the biceps tendon and intra-articular subscapularis tendon. 43: 4, 2009 pg 342-346

Bennett WF: Circumferential Arthroscopic Capsular Release: Reflections and a Historical Perspective. Arthroscopy, Vol. 28, Issue 12, p1751-1753

Bennett WF: Arthroscopic Subscapularis Repair: A Look at Primacy From a Historical Perspective, 2014 Issue 6, p661-664

Bennett WF, et al. Regenerative Treatments to Enhance Orthopedics Surgical Outcome. Physical Medicine and Rehab Journal. December 2014

ABSTRACTS:

Bennett, WF, Doherty, N, Hallisey, MJ, Fulkerson, JP: A Uniplanar Model for Medial and Lateral Quadriceps Support of the Patella. AOA Resident's Conference, Orth. Transactions, Fall 1990

Bennett WF, Browner Bruce: Tibial Plateau Fractures. Associated Soft Tissue Injuries AAOS 1993, Orth.Transactions, Spring 1994

Bennett WF, Sisto Domenick: Technical Highlights of Meniscal Allograft Surgery. AAOS 1995, Orth. Transactions, Spring 1995

Bennett WF: A Technique for Reconstructing the Calcaneofibular Ligament in Chronically Unstable Lateral Ankle Sprains. Developed in a Cadaveric Model. AAOS 1995, Orth. Transactions, Spring 1995

Bennett WF, Browner Bruce: Tibial Plateau Fractures. Associated Soft Tissue Injuries. The Year Book of Orthopedics. 1995. Mosby-Year Book

Bennett WF: The Specificity of the Speed's Test. AAOS 1996, Orth. Transactions, Spring, 1996

Bennett WF: Sequential Arthroscopic Release: Shoulder Capsule. AAOS 1997, Orth. Transactions, Spring, 1997

Bennett WF: Sequential Arthroscopic Release of the Shoulder Capsule for Adhesive Capsulitis. Abstract, Arthroscopy, June 1997 Vol.13 No.3, pg381

Bennett WF: Arthroscopic Subscapularis Repair: Two Year Follow-up. AAOS 1998, Orth Transactions, Spring, 1998

Bennett WF: Bioabsorbable Soft Tissue Fasteners. Arthroscopy, June 1998 Vol.14 No.5

Bennett WF: Arthroscopic Subscapularis Repair: Two Year Follow-up. Arthroscopy, June 1999

Bennett WF: Arthroscopic Evaluation of the Subscapularis Tendon. A Needed Addition to Routine Arthroscopic Shoulder Evaluation. Arthroscopy, October, Vol. 15 No 7, Suppl 1, 1999, p61

Bennett WF: The Not So Hidden "Hidden" Rotator Interval Lesion. Arthroscopic Anatomy/Diagnosis and Repair. Arthroscopy, October, Vol. 15 No 7, Suppl 1, 1999, ps61

Bennett WF: Subscapularis, Medial and Lateral Coracohumeral Ligament Insertion Anatomy. Arthroscopic Appearance and Incidence of the "Hidden" Rotator Interval Lesion. Orth Trans Spring 2000

Bennett WF: Arthroscopic Repair of Complete Supraspinatus Tears. 2 Year Follow-up. Arthroscopy, March, 2003

Bennett WF: Arthroscopic Repair of Complete Subscapularis Tears. 2 Year Follow-up. Arthroscopy, January, 2003

CONFIDENTIAL

Bennett WF: Arthroscopic Repair of Complete Anterosuperior Rotator Cuff Tears. 2 Year Follow- up. Arthroscopy, February, 2003

Bennett WF: Arthroscopic Repair of Massive Rotator Cuff Tears. 2-Year Follow-up. Arthroscopy, April, 2003

POSTER EXHIBITS:

Bennett WF: A Uniplanar Model for Medial and Lateral Quadriceps Support of the Patella The University of Connecticut School of Medicine, Research Day, 1987

Bennett WF: A Uniplanar Model for Medial and Lateral Quadriceps Support of the Patella. American College of Surgeons, Dallas, Tx 1989

Bennett WF: Tibial Plateau Fractures: Associated Soft Tissue Injuries. AAOS Annual Meeting New Orleans, La. February 1994

Bennett WF: Technical Highlights of Meniscal Allograft Surgery AAOS Annual Meeting, Orlando, FL.1995

Bennett, WF: A Technique for Reconstructing the Calcaneofibular Ligament in Chronically Unstable Lateral Ankle Sprains. Developed in a Cadaveric Model. AAOS Annual Meeting Orlando, FL. 1995

Bennett, WF: The Specificity of the Speed's Test. *AAOS Annual Meeting*. Atlanta, FL. 1996

Bennett, WF: Sequential Arthroscopic Release of The Shoulder in Adhesive Capsulitis. AAOS Annual Meeting. San Francisco, Ca. 1997

Bennett, WF: Arthroscopic Subscapularis Repair. AAOS Annual Meeting. New Orleans, LA. 1998

Bennett, WF: Arthroscopic Subscapularis Repair. ESSKA, 8TH CONGRESS. Nice, France 1998

Bennett, WF: Arthroscopic Subcoracoid Decompression. ESSKA, 8th Congress. Nice, France 1998

Bennett, WF: The Specificity of the Speed's Test. ESSKA, 8TH CONGRESS. Nice, France 1988

Bennett WF: Arthroscopic Subscapularis Evaluation. AAOS, Annual Meeting, Anaheim, CA, 1999

Bennett WF: Arthroscopic Subscapularis Evaluation. ISAKOS, Annual Meeting, Washington, DC, 1999

Bennett WF: Arthroscopic Repair of Massive Rotator Cuff Tendons: Arm Positioning and Screw placement. AANA 2001, Seattle, Washington

PRESENTATIONS:

Bennett WF: "Patellar Malalignment". Surgical Scholars. The University of Connecticut School of Medicine, Farmington, Ct. 1987

Bennett WF: "A Uniplanar Model for Medial and Lateral Quadriceps Support of the Patella". 28th National Student Research Forum, Galveston, Tx, 1987

Bennett WF: "A Uniplanar Model for Medial and Lateral Quadriceps Support of the Patella". American Orthop. Association Resident's Conference Newport Beach, Ca. 1990

Bennett WF: "The Anatomy of the Flexor Tendons in the Hand. "Hand Conference, The University of Texas Medical School, Houston, Tx. Sept. 1990

Bennett WF: "Compressive Neuropathies of the Upper Extremity". Hand Conference. The University of Texas Medical School, Houston, Tx. Oct. 1990

Bennett WF: "Tibial Fractures". Orthopaedic Trauma Conference. The University of Texas Medical School, Houston, Tx. Oct. 1990

Bennett WF: "Cervical Spine Fractures". Orthopaedic Trauma Conference. The University of Texas Medical School, Houston, Tx. March 1991

Bennett WF: "Thoracolumbar Spine Fractures". Orthopaedic Trauma Conference, The University of Texas Medical School, Houston, Tx. March 1991

Bennett WF: "Clubfoot". Didactic Presentation. The Shriner's Hospital for Crippled Children, Houston, Tx. 1991

Bennett WF: "Knee Dislocations". Orthopaedic Trauma Conference The University of Texas Medical School, Houston Tx. June 1991

Bennett WF: "Calcaneal Fractures". Orthopaedic Trauma Conference. The University of Texas Medical School, Houston Tx. September 1991

Bennett WF: "Tibial Plateau Fractures". Orthopaedic Trauma Conference, The University of Texas Medical School Houston, Tx. August 1992

Bennett WF: "Proximal Humeral Fractures". Orthopaedic Trauma Conference, Houston, Tx. January 1993

Bennett WF: "The Patellofemoral Joint". Didactic Presentation. Shriner's Hospital for Crippled Children, Houston, Tx. January 1993

Bennett WF: "Brachial Plexus Injuries". Didactic Presentation. Shriner's Hospital for Crippled Children, Houston, Tx. March 1993

Bennett WF: "Tibial Plateau Fractures: Associated Soft Tissue Injuries". AO Fellowship MTG, Fribourg, Switzerland April 1993

Bennett WF: "Operative Treatment of Recurrent Posterior Shoulder Instability" Presented to the Travelling Fellows of the American Society for Shoulder and Elbow Surgeons Fribourg, Switzerland May 1993

Bennett WF: "Sequential Arthroscopic Release of the Shoulder Capsule for Adhesive Capsulitis" AANA Annual Meeting, San Diego, Ca. 1997

Bennett WF: "Bioabsorbable Soft Tissue Fasteners: Failure Mode and Exaggerated Inflammatory Response" AANA Annual Meeting, Orlando, FL. 1997

Bennett WF: "Arthroscopic Subscapularis Repair: Two-Year follow-Up" ESSKA, 8TH CONGRESS. Nice, France 1998

Bennett WF: "Arthroscopic Subscapularis Repair: Two-Year Follow-Up" Florida Orthopaedic Society, Miami, Florida 1998.

Bennett WF: Arthroscopic Subscapularis Repair: AANA Annual Meeting, Vancouver, British, Co. 1999

Bennett WF: Arthroscopic Subscapularis Evaluation. A Needed Addition to Routine Shoulder Evaluation. ISAKOS, Washington, DC 1999

Bennett WF: The "Not-So-Hidden" Hidden Rotator Interval Lesion. ISAKOS, Washington, DC 1999

Bennett WF: The “Not-So-Hidden” Hidden Rotator Interval Lesion, Florida Orthopaedic Society, Annual Meeting, Destin, Florida, 1999

Bennett WF: Arthroscopic Inferolateral Coracoplasty, Florida Orthopaedic Society, Annual Meeting, Destin, Florida, 1999

Bennett WF: Electronic Media in Sportsmedicine, ICL, ISAKOS, Washington, DC 1999

Bennett WF: Arthroscopic Bicipital Groove Reconstruction, AANA, Phoenix, AZ 2003

Bennett WF: CME Credits Work Comp- Shoulder Injuries, Sarasota, Fl. 2004

Bennett WF: CME Credits Work Comp- Knee Injuries, Sarasota, FL. 2004

Bennett WF: How Arthroscopy Helps One Stay Active While Aging, Senior Friendship, Sarasota, Fl. 2004

Bennett WF: CME Credits Work Comp- Shoulder Injuries, Sarasota, Fl. 2005

Bennett WF: CME Credits Work Comp- Knee Injuries, Sarasota, FL. 2005

Bennett WF: How Arthroscopy Helps One Stay Active While Aging, Senior Friendship, Sarasota, Fl. 2005

Shoulder Surgery Controversies, Newport Beach, Ca, 2005

Subscapularis Tears: Arthroscopic Management

Technique and Results

Arthroscopic Anatomy and Reconstruction of the

Biceps Pulley

Bennett WF: CME Credits Work Comp- Shoulder Injuries, Sarasota, Fl. 2006

Bennett WF: CME Credits Work Comp- Knee Injuries, Sarasota, Fl. 2005

Bennett WF: How Arthroscopy Helps One Stay Active While Aging, Senior Friendship, Sarasota, FL. 2006

Bennett WF: Grand Rounds. CME Credits. Sarasota Memorial Hospital, August, 2006,
Subscapularis Tears: Arthroscopic Management
Technique and Results
Arthroscopic Anatomy and Reconstruction of the
Biceps Pulley

Bennett WF- Correlation of the SLAP and the Pulley. Annual ANNA San Francisco, 2007

Bennett WF: Correlation of the SLAP and the Pulley. AAOS Annual Meeting San Francisco, 2007