DUCKS IN A ROW

Annual Report 2006

ATS
MEDICAL
Focused right
on cardiac surgery.

2003-2004	2005-2006	2007 AND BEYOND
Reorganize and reposition the company, define the market opportunities and solidify core technology platforms.	**Assemble, acquire and build an innovative product portfolio to complete strategic alignment in three distinct cardiac market segments.**	**Execute on long-term growth strategy by meeting clinical and regulatory milestones and bringing new products to market.**
NET SALES FROM $13.3 to $28.0M	**NET SALES FROM $28.0 to $40.4M**	
Partnership with ErySave AB for PARSUS™ Technology	Acquired 3f Therapeutics®	ATS 3f® Aortic Bioprosthesis Introduction Outside the U.S.
CryoCath Technologies, Inc. Exclusive Partnership	Over 140,000 ATS Open Pivot® Heart Valves Implanted	ATS 3f® Aortic Bioprosthesis U.S. Market Approval
	ATS Open Pivot® AP360™ Introduction Outside the U.S.	ATS 3f Enable™ Heart Valve Clinical Trials Underway
	ATS Simulus™ Annuloplasty Ring Worldwide Introduction	ATS 3f Entrata™ Heart Valve Human Feasibility Trials
	ATS Medical® Thoracic Port System Worldwide Introduction	ATS Open Pivot® AP360™ Heart Valve U.S. Market Approval
	PARSUS Technology Reaches Second Milestone	ATS Open Pivot Heart Valve Expanded Size Approval
	QAS Home INR Monitoring Co-marketing Alliance	ATS Simulus Semi-rigid Annuloplasty Ring Worldwide Introduction
	Regeneration Technologies Exclusive Partnership	SurgiFrost® XL Cryoablation Probe Introduction
	Novare Surgical Systems, Inc. Exclusive Distribution Agreement	PARSUS Technology Reach Developmental Milestone

Acquisitions, finalized. Distribution agreements, signed. Development plans, adjusted. 2006 represented the culmination of building a more diversified, viable and sustainable business delivering proprietary technologies, products and services to the cardiac surgery market. Precisely, we've established a truly outstanding portfolio across three distinct market segments — heart valve therapy, surgical cardiac ablation, autotransfusion — representing $1.4 billion in market opportunity. It's a feat that's not at all coincidental considering that mission, market and message are in singular alignment.

The **heart valve therapy** market is a $1.2 billion market that includes mechanical heart valves, tissue heart valves and repair products. ATS Medical is well represented with leading-edge offerings from the ATS Open Pivot® Heart Valve to the ATS 3f® Aortic Bioprosthesis to the ATS Simulus™ Annuloplasty product line.

The number of patients with atrial fibrillation (AF) is skyrocketing. The $100 million **surgical cardiac ablation** market for the treatment of cardiac arrhythmias, expected to reach $400 million, is one of the fastest growing areas. The SurgiFrost® Cryoablation System is quickly becoming the modality of choice in this segment.

Reintroducing large lipid microemboli (fat cells) during **autotransfusion** can lead to a stroke. That issue may become much smaller with PARSUS filtration technology. Part of a $150 million potential market, PARSUS is on schedule to meet key development milestones for its anticipated introduction in 2008.

2006, THE FINER POINTS

Michael D. Dale
President, Chief Executive Officer, Chairman of the Board

A

As the number of patients with structural heart disease continues to rise, the 9000 cardiac surgeons worldwide who treat them play an increasingly vital role. Arming those surgeons with standard-setting technology has always been the basis of our deliberate objective to deliver exceptional value to stakeholders. Towards that aim, 2006 represents a year of significant progress. Several key developments in the past year, in fact, mark the successful completion of our strategic alignment in three distinct operationally synergistic segments, which more than exceed our goal of building a highly innovative and diversified cardiac surgery franchise. What remains — a series of industry-changing product introductions and extensions in heart valve therapy, surgical cardiac ablation and autotransfusion. Highlights of 2006 are as follow.

B

Solid growth and diversification. Company revenues increased 16.8% in 2006 to $40.4 million. Gross profit also improved to 51.6%, up from 34.1% in 2005. Revenue from the mechanical heart valve segment remained on the rise — up 6.4% to $33.1 million worldwide. It is worthy to note that the ATS Open Pivot® Heart Valve remains the only mechanical valve gaining share. Its worldwide procedure market share is now estimated at 15%. But what is truly encouraging are the revenue and increased sales derived from products outside of our core mechanical heart valve business, 18% of total revenue in 2006.

C

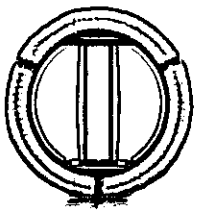
Acquisition of 3f Therapeutics® highlights genuinely innovative portfolio. During the year, we met our objective to establish offerings in the rapidly growing tissue and valve repair segments of the heart valve therapy market. The acquisition of 3f Therapeutics is of tremendous significance as this revolutionary tissue valve platform adds a whole new dimension to the company and allows us to envision far greater growth than previously possible. More succinctly, the addition of the ATS 3f® Aortic Bioprosthesis increases our addressable market opportunity by nearly $700 million. The valve, which mimics the formation of the native aortic valve as it develops *in utero*, holds terrific potential as confirmed by intense anticipation for the product among cardiac surgeons. Our introduction of the ATS Simulus™ Annuloplasty product line has more than met surgeon expectations and positioned us well in the $130 million mitral and tricuspid valve repair market segment. And the SurgiFrost® Cryoablation System continues its impressive adoption as the safest, most effective surgical treatment for cardiac arrhythmias — one of the hottest areas in cardiac surgery.

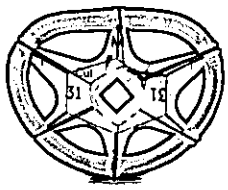
D

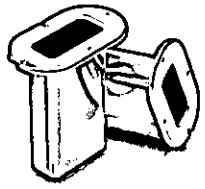
Milestones moving forward. 2007 will be a year when we assimilate all of our recent business development activities into a well-defined business entity and continue to execute our long-term growth strategy. Look forward to the U.S. launch of the ATS 3f Aortic Biosprosthesis and the ATS Open Pivot® AP360™ Heart Valve, the worldwide introduction of SurgiFrost® XL Probe and the ATS Simulus™ Semi-rigid Ring/Band along with several key development milestones.

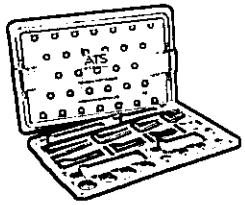
The ducks are in a row. It's time for the real excitement to begin.

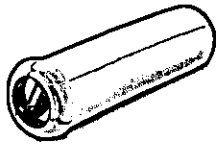
1 customer segment we focus on	**9000** cardiac surgeons worldwide	**2.7** millions of dollars each surgeon represents in autonomous purchasing power
3 generations of the ATS 3f® Aortic Bioprosthesis product platform	**15** % market share gained by ATS Open Pivot® Heart Valves since 2003	**9** clinical and regulatory milestones to be met by new products in 2007
1.4 billions of dollars in existing market opportunity for ATS Medical products	**204** % revenue increase for ATS Medical since 2003	**10** additional products beyond the ATS Open Pivot Heart Valve
-160 degrees that the SurgiFrost® Probe reaches in the safe cryo-ablation of cardiac arrythmias	**3** distinct market segments — heart valve therapy, surgical cardiac ablation, autotransfusion	**2,700,000** estimated number of patients with atrial fibrillation in the U.S. in 2006
140,000 ATS Open Pivot® Heart Valves Implanted	**700** million dollars of additional market opportunity as a result of 3f Therapeutics® acquisition	**0** tissue valves, aside from ATS 3f® Bioprosthesis, that mimic native valve form and function

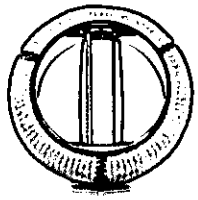


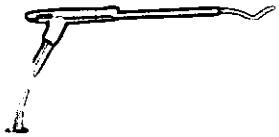


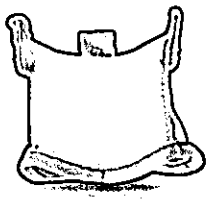


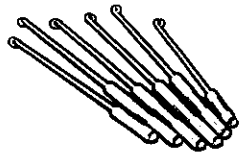


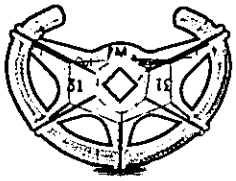


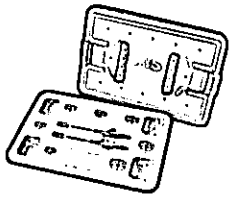


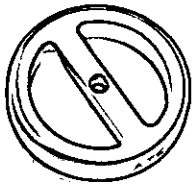


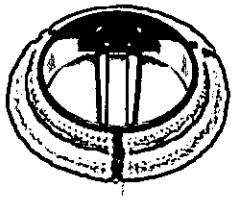










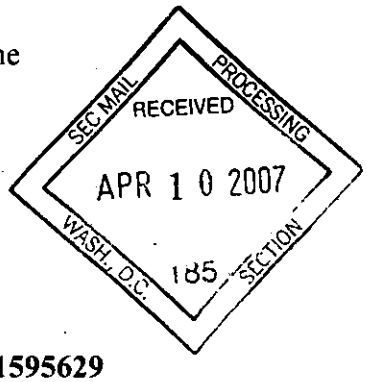


UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-K

Annual Report pursuant to Section 13 or 15(d) of the
Securities Exchange Act of 1934

For the Fiscal Year Ended December 31, 2006
Commission File No. 0-18602



ATS MEDICAL, INC.

(Exact name of registrant as specified in its charter)

Minnesota	**41-1595629**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
3905 Annapolis Lane North Minneapolis, Minnesota	**55447**
(Address of principal executive offices)	(Zip Code)

Registrant's telephone number, including area code: (763) 553-7736
Securities registered pursuant to Section 12(b) of the Act: Common Stock $.01 par value
Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.
Yes ___ No_X

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act.
Yes ___ No_X

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.
Yes _X_ No ___

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. _X

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, or a non-accelerated filer. See definition of "accelerated filer and large accelerated filer" in Rule 12b-2 of the Exchange Act (Check one):
Large accelerated filer ___ Accelerated filer _X_ Non-accelerated filer ___

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act).
Yes ___ No_X

The aggregate market value of voting and non-voting stock held by non-affiliates of the registrant as of June 30, 2006, was approximately $74,047,860 (based on the last sale price of such stock as reported by the NASDAQ Global Market on such date).

The number of shares outstanding of the registrant's common stock, $.01 par value per share, as of March 2, 2007, was 40,832,221 shares.

DOCUMENTS INCORPORATED BY REFERENCE

Pursuant to General Instruction G, the responses to Items 10, 11, 12, 13 and 14 of Part III of this report are incorporated herein by reference to certain information contained in the registrant's definitive Proxy Statement for its 2007 Annual Meeting of Shareholders.

PART I

ITEM 1. BUSINESS

OVERVIEW

ATS Medical, Inc. (hereinafter the "Company," "ATS," "we," "us," or "our") is a Minnesota corporation established in 1987. Our common shares are traded on the NASDAQ Global Market under the symbol ATSI.

We develop, manufacture, and market medical devices primarily for use by cardiovascular or cardiothoracic surgeons during cardiac surgery. Our core mission is to create a company with a diversified product portfolio focused exclusively on the cardiac surgeon. Our objectives are to establish ATS mechanical and tissue heart valves as the standard of care for patients requiring heart valve replacement and to selectively add new products, primarily through acquisitions and strategic product development or distribution agreements.

Sales of our mechanical heart valves represented approximately 82% of our sales in 2006, 90% of our sales in 2005 and 100% of our sales in 2004. Our mechanical bileaflet heart valve has a unique open pivot design. Our valve is used to treat heart valve disease caused by the natural aging process, rheumatic heart disease, prosthetic valve failure and congenital defects. Mechanical heart valves have been in use since the early 1960s. According to **Millenium Research Group 2006,** the worldwide market for mechanical heart valves exceeds $347 million, representing approximately 30% of the worldwide heart valve market. In the United States, the mechanical heart valve market approximates $95 million. The current total worldwide heart valve market approximates $1.2 billion, including tissue heart valves and heart valve repair.

On September 29, 2006, we acquired 3F Therapeutics, Inc. ("3F"), an early stage medical device company with a portfolio of tissue heart valves. 3F's tissue technologies are at the forefront of the emerging field of minimally invasive beating heart tissue valve replacement. The acquisition of 3F is viewed as a major step in executing our longstanding vision of obtaining a leadership position in all segments of the cardiac surgery market. We expect to commence sales of the first generation of 3F products in selected international markets in 2007.

The ATS Open Pivot® Heart Valve ("ATS Open Pivot") was designed to be an evolutionary improvement upon other available mechanical heart valves by incorporating a pivot consisting of protruding spheres upon which the leaflets of the valve pivot to open and close. This unique open pivot was designed to eliminate the cavity created by the pivot of other bileaflet valves and to improve blood flow through the valve while minimizing the potential for clot formation. We began selling the ATS Open Pivot Heart Valve in international markets in 1992. In October 2000, we received FDA approval to sell the ATS Open Pivot Heart Valve in the United States. More than 140,000 of our ATS Open Pivot Heart Valves have been implanted in patients worldwide since its introduction.

CarboMedics, Inc., ("CarboMedics," f/k/a Sulzer CarboMedics) developed the basic design from which the ATS Open Pivot Heart Valve evolved. CarboMedics is a large and experienced manufacturer of pyrolytic carbon components used in mechanical heart valves. CarboMedics has also designed and patented numerous mechanical valves. CarboMedics offered to license a patented and partially developed valve to us if we would complete the development of the valve and agree to purchase carbon components from CarboMedics. We hold an exclusive, royalty-free, worldwide license to an open pivot, bileaflet mechanical heart valve design from which the ATS Open Pivot Heart Valve has evolved. In addition, we have an exclusive, worldwide right and license to use CarboMedics' pyrolytic carbon technology to manufacture components for the ATS Open Pivot Heart Valve, and a non-exclusive worldwide right and license to use the technology to produce pyrolytic carbon components for other devices and manufacturers, including, after 2008, other heart valve manufacturers. We are currently engaged in litigation with CarboMedics regarding the disposition of a long standing carbon supply agreement with them. The litigation is described in more detail under Item 3. "Legal Proceedings." The supply agreement is discussed in more detail under "Our Markets and Products - Prosthetic Heart Valve Market - Relationship with CarboMedics" below.

In order to pursue our mission to create a diversified cardiac surgery-focused company, we have entered into several agreements, commencing in 2004, for the development, marketing and distribution of additional cardiac surgery-related medical devices and services. The marketing and sales of these products leverage both our sales and marketing infrastructure and broaden our relationships with cardiac surgeons. Sales from these new products have grown to 18% of our total revenue in 2006, up from 10% of our total revenue in 2005. We had no revenue from

these new products in 2004. These new product additions to our portfolio include products for the surgical treatment of cardiac arrhythmias, allograft tissue for cardiovascular procedures, valve repair products and surgical accessories. Our acquisition of 3F in 2006 provides us with access to its portfolio of tissue heart valves.

Surgical Atrial Fibrillation Cardiac Ablation market: In November 2004, we completed a global partnership agreement with CryoCath Technologies, Inc. ("CryoCath") to market CryoCath's surgical cryotherapy products for the ablation of cardiac arrhythmias. The agreement with CryoCath resulted in revenues for ATS commencing in the first quarter of 2005. The ablation market within cardiac surgery is currently estimated to total approximately $100 million and is growing at over 38% annually, according to **Health Research International 2007**.

Heart Valve Repair market: In June 2005, we entered into an exclusive development, supply and distribution agreement with Genesee BioMedical, Inc. ("GBI"), under which GBI develops, manufactures and supplies cardiac surgical products, including valve repair products and accessories, and we have the exclusive worldwide rights to market and sell these products. Sales of these products commenced in the first quarter of 2006. The repair segment of heart valve therapy totals $132 million and is growing at a rate of approximately 6% per year, according to **Millenium Research Group 2006.**

Surgical Accessories: During 2005, we entered into an agreement to market a new, proprietary line of minimally invasive cardiac surgery tools for application in robotic heart valve surgery. In connection with this agreement, we introduced our ATS Medical® Thoracic Port System in the third quarter of 2005. During 2006, we entered into a distribution agreement with Novare Surgical Systems Inc. ("Novare") under which we obtained the exclusive distribution rights to Novare's Enclose Anastomosis Assist device, a product designed to simplify the surgical process of attaching a coronary bypass graft to the aorta during coronary bypass surgery. We recognized our first sales of the Enclose product in the fourth quarter of 2006.

Cardiac Surgery Blood Filtration market: We are also engaged in the development of a new patented technology, Particle Separation by Ultrasound (PARSUS) for auto-transfusion during cardiac surgery. In April 2004 we signed an agreement with ErySave AB ("ErySave"), a Swedish research firm, for exclusive worldwide rights to ErySave's PARSUS filtration technology for cardiac surgery procedures. We have not recognized any revenues related to this development project nor do we expect revenues from our PARSUS technology during 2007.

Tissue Heart Valve market: The first generation of 3F tissue valves, the ATS 3F Aortic Bioprosthesis™, has received CE Mark and is available for sale in certain international jurisdictions. We anticipate a commercial launch of the ATS 3F Aortic Bioprosthesis in international markets in the first half of 2007 and, subject to FDA approval of our pre-market approval application, in the United States during the fourth quarter of 2007. Our next generation tissue valves, the Enable and Entrata valves, are intended to reduce (Enable) and eliminate (Entrata) the time a patient undergoing heart valve replacement is on a heart and lung bypass machine. The Enable and Entrata valves are currently undergoing clinical and preclinical evaluations, respectively.

Cardiovascular Allograft Tissue Valve market: In June 2005, we entered into a marketing services agreement with Regeneration Technologies, Inc. - Cardiovascular ("RTI-CV," a/k/a Alabama Tissue Center), a subsidiary of Regeneration Technologies, Inc. Under the terms of this agreement, we are marketing and servicing RTI-CV processed cardiovascular allograft tissue. First sales of this product commenced in the third quarter of 2005. In January 2007 our marketing services agreement with RTI was amended as a result of RTI's sale of their cardiac tissue processing business. The amended agreement provides for a reduction in the performance criteria, an increase in commission rates, a minimum annual commission amount, and reduces the term of the agreement by 6 months to December 31, 2007.

BUSINESS STRATEGY

The key components of our business strategy to create a profitable, diversified, cardiac surgery-focused company include:

- *Increase market share of our core product, the ATS Open Pivot Heart Valve.*
- *Broaden our relationships with cardiac surgeons by selectively adding new medical devices to our product portfolio.*
- *Leverage our investments in our marketing and sales infrastructure.*
- *Lower our cost of goods sold.*

OUR MARKETS AND PRODUCTS

Prosthetic Heart Valve Market

Overview

There are two types of replacement heart valves: tissue and mechanical. Tissue valves are made from animal or cadaver tissue or, in some cases, the patient's own tissue. While tissue valves have a lower level of risk for blood clotting around the valve compared with mechanical valves, they also have limited durability due to calcification and deterioration. If a tissue valve fails, a new valve must be implanted, requiring another open heart surgery.

Mechanical valves are made from durable materials such as metals and carbon. In-vitro testing of current pyrolytic carbon mechanical valves has yielded estimated useful lives in excess of any patient's lifetime. Mechanical valves currently require the use of anti-coagulants to prevent formation of blood clots; tissue valves generally do not require anti-coagulant treatment.

In general, tissue valves are prescribed for patients who are less able to tolerate anti-coagulants due to conditions such as gastrointestinal ulcers or liver dysfunction, elderly patients, and women in their childbearing years. The choice of valve type is based on several factors such as life expectancy, medical conditions, and patient preference.

Cardiac surgeons choose a particular type of mechanical valve based on a number of factors. A principal factor in the choice of a valve is the potential for forming blood clots, or thrombus, resulting from areas in the valve where the blood can stagnate. Blood clots can impair the performance of a valve and, if the clot detaches and moves through the bloodstream (an embolism), result in an arterial blockage or stroke. Another principal factor in the choice of a mechanical valve is the blood flow efficiency, or hemodynamics, of the valve. A mechanical valve should allow blood to flow easily through the valve with minimal pressure required to open the valve and minimal backflow of blood when the valve closes. The valve also should not exert force on the blood that could damage the fragile blood cells. Other factors that are important in a surgeon's choice of a mechanical valve are the ease in implanting and monitoring the valve's performance, the patient's quality of life and the physician's familiarity with and confidence in the valve.

In addition to cardiac surgeons, administrators or business managers at hospitals and clinics have become increasingly influential in the purchase decision-making process in recent years. The increasing emphasis on medical cost containment in most world markets has elevated the decision-making power of the administrator. The administrator tends to focus on cost-effectiveness and, in some markets, primarily on the cost of the valve.

Our ATS Open Pivot Heart Valve Product

Our product was designed to improve upon existing mechanical heart valves by combining a proprietary open pivot design and other innovative features with the widely accepted biocompatibility and durability of pyrolytic carbon. The standard ATS Open Pivot Heart Valve is available in seven sizes ranging from 19mm to 31mm in diameter, with sewing cuffs for either aortic valve or mitral valve replacement. In 1994, we introduced the Advanced Performance series of the ATS Open Pivot Heart Valve in international markets. This valve is available in seven sizes ranging from 16mm to 28mm in diameter. Our 16mm valve is currently the world's smallest commercially available mechanical valve, although not all valve sizes are available in all geographies.

The major design features of the ATS Open Pivot Heart Valve are:

- **Open Pivot Areas** - The proprietary open pivot areas of the ATS Open Pivot Heart Valve feature spherical protrusions from the orifice that match spherical notches in the leaflets. The pivot areas protrude into the orifice and are exposed to the washing action of the blood flowing through the heart valve. All other currently marketed bileaflet valves contain pivot cavities in the orifice wall into which protrusions from the semi-circular leaflets extend to allow the leaflets to open and close. The open pivot design also features angled inflow and outflow pivot stops.

- **A Thin But Durable Orifice** - The orifice of the ATS Open Pivot Heart Valve is manufactured using a mandrel that is coated with pyrolytic carbon. The mandrel is then removed, leaving a solid pyrolytic carbon orifice. Some competitive products use an orifice composed of a soft graphite substrate coated

with pyrolytic carbon. By eliminating the graphite substrate, we have made the orifice wall thinner, resulting in a larger average inside diameter. The orifice is surrounded by a titanium strengthening band that eliminates orifice distortion and potential leaflet escape or impingement and can be rotated.

- **Low Profile Design** - The ATS Open Pivot Heart Valve has a low profile design. The profile of a mechanical heart valve refers to the extension of the orifice and leaflets above and below the natural tissue annulus, or location of the natural heart valve. The inflow side of the orifice of the ATS Open Pivot Heart Valve is flat, unlike the most widely used cavity pivot valve that has upstream protrusions on the orifice to house the cavity.

- **An Advanced Sewing Cuff** – The sewing cuff surrounding the orifice of the ATS Open Pivot Heart Valve is made of double velour polyester and includes a surgical felt ring for ease of sewing. The Advanced Performance series offers an alternative sewing cuff design that allows a valve with a larger inside diameter to be used, which is particularly helpful in the small aortic root.

- **Pyrolytic Carbon** - Pyrolytic carbon has been used in mechanical heart valves for more than 25 years. The orifice of our heart valve is fabricated entirely from pyrolytic carbon, while the leaflets are fabricated by coating pyrolytic carbon on graphite substrates. Pyrolytic carbon used in other mechanical valves has been tested to function longer than any patient's lifetime. Pyrolytic carbon is believed to be superior to metal and plastics in terms of the human body's acceptance of the material, thus resulting in lower rates of thrombosis and thromboembolism compared with other materials. Due to its durability and biocompatibility, pyrolytic carbon is used in virtually every mechanical heart valve on the market.

- **Two Leaflets** - Bileaflet valve designs are found in substantially all mechanical heart valves being marketed today. The leaflets in the ATS Open Pivot Heart Valve have tungsten impregnated in the substrate to make them visible under x-ray.

The ATS Open Pivot Heart Valve is designed to provide the following five, primary advantages over other currently available mechanical heart valves:

- **Low Rates of Thromboembolic Complications** - The pivot cavities found in other bileaflet heart valves are areas of blood flow stagnation and possible blood clot formation. By eliminating the cavities in the orifice and placing the pivot areas within the normal blood flow, the improved washing action in the ATS Open Pivot Heart Valve is intended to lower the likelihood of blood clot formation and the resulting incidence of thromboembolism. The open pivot design as well as the angled inflow and outflow pivot stops also result in low levels of hemolysis (damage to blood cells), which may contribute to a low rate of thromboembolic complications and allow for modified anticoagulation regimens.

- **Improved Patient Quality of Life Through Lower Noise Levels** - Patients implanted with other mechanical heart valves complain of disturbances resulting from the clicking sound created as the valve closes. These disturbances range from irritability and insomnia to paranoia and depression. Spouses of patients with competitive mechanical heart valves also report disturbances resulting from the noise of the valve. Based on peer reviewed publications and informal surveys, we believe that the ATS Open Pivot Heart Valve is quieter than other valves and below the threshold of hearing of many patients. We believe that the reduced noise level of our product further improves the quality of life of the patient.

- **Improved Blood Flow Efficiencies** - We have made the orifice of our product durable and thin, resulting in a large inside diameter. The large inside diameter of the ATS Open Pivot Heart Valve is intended to produce lower pressure gradients. The term "gradients" refers to the pressure difference between the inflow and outflow side of the valve needed to support the required blood flow through the valves. The ATS Open Pivot Heart Valve is also designed to have low regurgitation, or backflow of blood when the valve is closed, due to the geometry of its angled inflow and outflow pivot stops that minimize the direct leakage paths. These design characteristics are intended to result in superior blood flow efficiencies that reduce the workload on the heart.

- **Ease of Implant -** Our product was designed for ease of use by the cardiac surgeon. The low profile of the ATS Open Pivot Heart Valve is intended to minimize implant complications. Leaflets that extend significantly below the natural tissue annulus in the mitral position may obstruct blood outflow or interfere with the septum or other parts of the heart. Protrusions on the inflow side of the annulus in the aortic position may snag sutures used to attach the mechanical valve to the heart. In addition, because the orifice can be rotated, the surgeon can optimize valve orientation by adjusting the position of the leaflets after the ATS Open Pivot Heart Valve has been sutured in the natural anatomical position in the patient's heart. Suturing the ATS Open Pivot Heart Valve into the heart is made easier by reducing the number of layers of polyester material in the aortic and mitral cuffs and by adding the surgical felt ring in the sewing cuff, thereby easing the passage of the suture needle through the sewing cuff. The packaging and accessories of the ATS Open Pivot Heart Valve also are designed to facilitate the implant procedure by including all of the required items pre-assembled in a sterilized dual barrier container.

- **Improved Follow-Up Diagnostic Capability** - Our product facilitates the follow-up diagnostic process by being more easily visible to x-rays. The titanium strengthening band provides a clear image on x-rays when taken from any angle. The leaflets also have a high density of tungsten impregnated in the substrate, making them more visible to x-rays.

Relationship with CarboMedics

CarboMedics developed the basic design from which the ATS Open Pivot Heart Valve evolved. CarboMedics is a large and experienced manufacturer of pyrolytic carbon components used in mechanical heart valves. CarboMedics has also designed and patented numerous mechanical valves. We have entered into three agreements with CarboMedics: a license agreement and a long-term carbon supply agreement entered into in September 1990, and a carbon technology agreement entered into in December 1999.

Under the terms of the license agreement with CarboMedics, we hold an exclusive, royalty-free, worldwide license to an open pivot, bileaflet mechanical heart valve design from which the ATS Open Pivot Heart Valve has evolved. The license agreement does not include the right to manufacture the pyrolytic carbon components of the ATS Open Pivot Heart Valve, except if CarboMedics were unable to produce the components. In that case, we would have the right and license to make the components or have them made for us. There currently is not a third party that can produce the pyrolytic carbon components for the ATS Open Pivot Heart Valve. After making certain design changes in the valve, we finalized the design of the ATS Open Pivot Heart Valve and filed and received our own U.S. patent covering the design of the ATS Open Pivot Heart Valve. The design modifications and the resulting U.S. patent covering the new design are the exclusive property of ATS.

In connection with the execution of the license agreement, we were also required to enter into a long-term supply agreement with CarboMedics under which we acquired a large inventory of pyrolytic carbon components for the ATS Open Pivot Heart Valve. In June 2002, the supply agreement was amended to suspend our purchase obligations for the remainder of 2002 (with the exception of approximately eight weeks of work in process) along with 100% of our purchase obligations for 2003, 2004, 2005 and 2006. The 2002 through 2006 purchase obligations were scheduled to resume, beginning in 2007. In January 2007, CarboMedics served a complaint on us, seeking to enforce the contractual purchase obligations and monetary damages. This litigation is described in detail at Item 3. "Legal Proceedings."

In December 1999, we entered into a carbon technology agreement with CarboMedics under which we obtained an exclusive, worldwide right and license to use CarboMedics' pyrolytic carbon technology to manufacture components for the ATS Open Pivot Heart Valve, and a non-exclusive worldwide right and license to use the technology to produce pyrolytic carbon components for other devices and manufacturers, including, after 2008, for other heart valve manufacturers. Under the agreement, CarboMedics also agreed to assist us in designing, building, equipping, qualifying and commencing operations in a pyrolytic carbon component production facility in Minneapolis, Minnesota. In return, we agreed to pay CarboMedics a license fee totaling $41 million. We were also obligated under the carbon technology agreement to pay all of the costs of establishing the new carbon production facility, including hourly fees and out-of-pocket expenses of the CarboMedics employees assigned to assist us in setting up the facility. In August 2003, we satisfied all of our payment obligations under the carbon technology agreement.

Our Tissue Heart Valves

In September 2006, we acquired 3F, a medical device company based in Lake Forest, California. 3F is an early stage medical device company at the forefront of the emerging field of less invasive and minimally invasive beating heart tissue valve replacement. We view the acquisition of 3F as a major step in executing our longstanding vision of obtaining a leadership position in all segments of the cardiac surgery market. There are three principal products in our tissue heart valve portfolio:

ATS 3F Aortic Bioprosthesis. We have completed the development of our first generation product, the ATS 3F Aortic Bioprosthesis. The ATS 3F Aortic Bioprosthesis, a biological replacement aortic heart valve, has received a CE Mark and is available for commercial release in Europe and other foreign countries. This is the only replacement heart valve that has the ability to be collapsed for implantation without suffering damage while also maintaining excellent dynamic flow characteristics after implant. Over 400 implantations of this device have been successfully conducted in Europe and the United States under regulated protocols governing human use. The initial results have shown properties that compare favorably with both mechanical and biological valves presently in the market. 3F submitted the final clinical module of its premarket approval application to the FDA for the ATS 3F Aortic Bioprosthesis during the third quarter of 2006.

Minimally Invasive and Off-Pump Aortic Heart Valve Replacement Technology. We believe that substantial growth in the future within the heart valve industry will be the result of the introduction of minimally invasive and off-pump products. To address this future demand, we are currently developing various minimally invasive and off-pump aortic valve concepts. Our first product in this exciting arena is the Enable Aortic Heart Valve™, which is intended to reduce surgical cross-clamp and cardio-pulmonary bypass time. The Enable Aortic Heart Valve is presently in clinical studies outside the United States. We are also developing an off-pump aortic valve, the Entrata Aortic Valve System™, using technology and intellectual property licensed from Edwards Lifesciences.

Surgical Cardiac Ablation Market

Overview

Atrial fibrillation ("AF") has become the most common complication of cardiovascular surgery. AF is electrical activity in the atrium that is uncoordinated and chaotic. During AF, the atrium begins to quiver in a rapid and chaotic fashion as a result of the electrical impulses. This resulting chaotic quivering can lead to deterioration of the atrial mechanical activity whereby blood is not fully expelled from the atrium to the ventricle and begins to pool. The pooled blood can coagulate and form clots. These clots can move, become lodged in critical areas, restrict blood flow, and potentially cause a stroke. In addition, if left untreated, AF can lead to atrial remodeling, contributing to congestive heart failure.

Cryotherapy involves the use of extremely cold temperatures to kill or ablate specific tissues while leaving underlying connective tissues largely unaffected. In AF, this enables the surgeon to encircle the pulmonary veins with lines of scar tissue to block transmission of erratic electrical signals that trigger AF. Cryotherapy also offers two advantages when compared to the more prevalent heat-based therapies because freezing preserves tissue integrity and minimizes the risk of endocardial thrombus associated with heat-based energy sources.

Our CryoCath Surgical Cryotherapy Products

We market and sell surgical cryotherapy products for the ablation of cardiac arrhythmias through our partnership with CryoCath. We currently market and sell three CryoCath products, including SurgiFrost 6, SurgiFrost 10 and FrostByte, which are single-use probes for freezing tissue in seconds. These probes are very malleable to conform to an individual's anatomy. To date, the cryotherapy products we have sold have been focused on open chest surgical procedures performed concomitantly with other cardiac surgery procedures.

Pursuant to this partnership, entered into in November 2004, we have been granted co-promotion rights in the United States, earning an agency commission on sales to accounts as specified in the partnership agreement, and distribution rights in the rest of the world. We started marketing and selling this technology in the United States in the first quarter of 2005 and in markets outside of the United States in the second quarter of 2005. During 2007 we expect to launch a new product, the SurgiFrost XL, which will provide us with an entrance into the market for stand-alone surgical treatment of AF.

Heart Valve Repair Market

Overview

Depending on the type and severity of someone's heart valve disease, it is sometimes preferable to repair their damaged valve as opposed to complete removal and replacement with either a mechanical or a tissue heart valve. The worldwide market for heart valve repair is estimated at $125 million and growing approximately 6% per year, according to **Millenium Research Group 2006.**

Our Heart Valve Repair Products

We commenced development and manufacturing of a line of cardiac surgical products in 2005 pursuant to our exclusive worldwide development, supply and distribution agreement with GBI. In February 2006, we began to market and sell these products, including annuloplasty repair rings, c-rings and accessories. Our partnership with GBI provides us with access to a portfolio of patents, intellectual property and important manufacturing and product development experience specific to heart valve repair and the related tools and accessories for entry into this segment of the heart valve therapy market.

Cardiac Surgery Blood Filtration Market

Overview

We are currently developing blood filtration technology for potential use by patients requiring cardiac surgery procedures, including heart valve repair or replacement and coronary artery bypass. The objective of our PARSUS filtration technology is to enable highly effective filtering by using ultrasound waves to suspend particles that become mixed in the blood during cardiac surgery procedures. We believe that PARSUS, if successfully developed, will enable a surgeon to re-infuse/autotransfuse a patient's lost blood in a safer and more efficient manner and avoid the complications commonly associated with currently available autotransfusion products or third-party blood transfusions.

Our Cardiac Surgery Blood Filtration Technology

In April 2004 we signed an agreement with ErySave for exclusive worldwide rights to ErySave's PARSUS filtration technology for cardiac surgery procedures. We are currently in the development phase with this technology. To date we have had no revenues from this technology and do not expect to have any revenues from this technology in 2007.

Cardiovascular Allograft Market

Overview

When considering a surgical procedure for tissue repair, cardiovascular surgeons can choose from several different treatment options including xenograft (animal) tissue, autograft (harvested from another site on the patient's body) tissue or allograft (from a deceased human donor) tissue.

Our Cardiovascular Allograft Products

Commencing in the third quarter of 2005, we began marketing and servicing cardiovascular allograft tissue, including heart valve and vascular allograft tissue, to doctors, hospitals, and clinics throughout North America through our exclusive marketing services agreement with RTI-CV. Our marketing services agreement with RTI-CV will terminate at the end of 2007.

MARKETING, SALES AND DISTRIBUTION

Overview

A key component of our business strategy is to leverage the investments we have made in our marketing, sales and distribution resources through higher sales of our ATS Open Pivot Heart Valve, and through the sales of additional products, which we began selling in 2005. We have been steadily building both our domestic and international sales and marketing infrastructure. Because sales prices in the United States exceed selling prices in most other markets, we believe that our future success will, in large measure, depend on achieving increased market share and leveraging our sales force through the introduction of new products in the United States. Our U.S. sales have grown to 39% of overall sales in 2006, up from 38% in 2005, and 33% in 2004. In 2000, U.S. sales represented 4% of overall sales. Sales to one independent distributor represented more than 10% of our net sales in 2006. See Note 15 of "Notes to Consolidated Financial Statements" in Item 8 of this Report for more information regarding our sales to customers.

U.S. Marketing and Sales

Our sales organization in the United States consists of five area directors managing multiple sales territories. The number of sales territories has steadily increased since early 2003 and currently totals 26 sales territories. Our representation within these territories consists of both direct sales representatives and independent agents. We focus our sales and marketing efforts on increasing awareness of our products in the approximately 950 U.S. open-heart centers.

International Marketing, Sales and Distribution

During 2006, we opened an administrative office in Austria, which we plan to use as the European support center for our current and future direct selling operations in Europe. We have direct sales organizations in France (since 2003), Germany (since 2005), and the United Kingdom (since 2006) and a direct marketing organization in China (since 2004). In France, Germany and the United Kingdom, we maintain consignment inventories at in-country hospitals. In addition to our direct sales organizations in France, Germany, the United Kingdom and China, we sell through an independent distribution network in other markets throughout the world. We believe that our distribution partners have provided a rapid and cost efficient means of increasing market penetration and commercial acceptance of the ATS Open Pivot Heart Valve in key international markets. We have been able to attract experienced mechanical valve sales organizations and people familiar with local markets and customs to serve as our representatives. Each of our independent distributors has the exclusive right to sell the ATS Open Pivot Heart Valve within a defined territory. These distributors, in some instances, also market other medical products, although they have agreed not to sell other mechanical heart valves. Under most of the distributor agreements, we may, at our option, terminate the agreement upon the departure of certain key employees of the distributor, if we experience a change in control or if key performance criteria, including sales quotas, are not met. We sell the ATS Open Pivot Heart Valve to each distributor F.O.B. Minneapolis, Minnesota. Sales to international distributors are denominated in U.S. dollars. One independent distributor accounted for more than 10% of our gross sales in 2006. See Note 15 of "Notes to Consolidated Financial Statements" in Item 8 of this Report for information on our net sales by geographic region. Net sales both inside and outside the United States are also discussed in Item 7 of this Form 10-K.

Our sales, marketing and customer service personnel provide professional sales, marketing and promotional support to our independent distributors.

COMPETITION

The prosthetic heart valve market is highly competitive with St. Jude Medical, Inc. as the mechanical valve market share leader and Edwards Lifesciences as the tissue valve market leader. Other companies that sell mechanical valves include Medtronic, Inc., CarboMedics, Sorin Biomedica sPa (only outside the United States), and Medical Carbon Research, Inc. St. Jude Medical, Medtronic, Edwards Lifesciences, Sorin Biomedica and CryoLife sell tissue valves.

We are aware of several companies that are developing new prosthetic heart valves. Several companies are developing and testing new autologous (created from the patient's own tissue) valves, potentially more durable

tissue valves and new bileaflet and trileaflet mechanical designs. Advancements also are being made in surgical procedures such as mitral valve reconstruction, whereby the natural mitral valve is repaired, delaying the need for a replacement valve. Other companies are pursuing biocompatible coatings to be applied to mechanical valves in an effort to reduce the incidence of thromboembolic events and to treat tissue valves to forestall or eliminate calcific degeneration in these valves. Competition within the prosthetic heart valve market is based on, among other things, clinical performance record, minimizing complications, ease-of-use for the surgeon, patient comfort and quality of life and cost effectiveness.

We believe that the most important factors in a heart surgeon's selection of a particular prosthetic valve are the perceived benefits of the valve and the heart surgeon's confidence in the valve design. As a result, valves that have developed a favorable clinical performance record have a significant marketing advantage over new valves. In addition, negative publicity resulting from isolated incidents can have a significant negative effect on a valve's overall acceptance. Our success is dependent upon the surgeon's willingness to use a new prosthetic heart valve as well as the future clinical performance of the ATS Open Pivot Heart Valve and the ATS 3F tissue heart valves compared with the more established competition.

Competition in the medical device industry is intense and is characterized by extensive research efforts and rapid technological progress. We believe that the primary competitive factors include quality, technical capability, innovation, distribution capabilities, and price. Many of our competitors in the heart valve market have greater resources, more widely accepted products, greater technical capabilities and stronger name recognition than we do. Our competitive capability is affected by our ability to support our products, ensure regulatory compliance for our products, protect the proprietary technology of our products and their manufacturing processes, effectively market our products, and maintain and establish distribution relationships. In order to maintain these capabilities ATS must continuously attract and retain skilled and dedicated employees and develop and maintain excellent relationships with physicians and suppliers.

We believe that mechanical heart valves are currently being marketed to hospitals at prices that vary significantly from country to country due to market conditions, currency valuations, distributor mark-ups and government regulations. In many markets, government agencies are imposing or proposing price controls or restrictions on medical products. We work with our independent distributors to price the ATS Open Pivot Heart Valve in each market to meet these limitations. In addition, our primary competitors have the ability, due to economies of scale, to manufacture their valves at a lower cost than we can currently manufacture the ATS Open Pivot Heart Valve. The market leader has occasionally used price as a method to compete in several markets.

The surgical ablation of cardiac arrhythmias is highly competitive. Other companies that market products for the treatment of cardiac arrhythmias are Medtronic, Guidant, and Atricure.

The cardiovascular allograft market is supply constrained dependent upon amount of donor tissue available. Other companies marketing in the cardiovascular allograft market include CryoLife, Lifenet, and Northwest Tissue Service Center.

MANUFACTURING AND SUPPLY

Our mechanical heart valves are manufactured in ISO 13485 certified facilities. We have two mechanical heart valve production facilities, in close proximity in Plymouth, a suburb of Minneapolis, Minnesota, for our manufacturing activities. Our pyrolytic carbon components are manufactured in one facility and we assemble the ATS heart valve in a controlled clean room environment in the other facility. Most of the materials we purchase for our products are supplied by a limited number of vendors. We are currently operating one manufacturing shift at our valve assembly facility. At our pyrolytic carbon facility, most processes are operating one manufacturing shift while some operate up to three manufacturing shifts. We have been ramping up our pyrolytic carbon manufacturing facility over the past two years under an initiative to become a low-cost, self-supplier of the critical carbon components necessary in the manufacture of our mechanical heart valves. While this initiative has resulted in ramp-up and start-up expenses, low initial production yields, and higher-than-normal scrap costs, our gross margins have improved in both 2005 and 2006. We anticipate our manufacturing yields and efficiencies will continue to improve over time as we gain experience and expertise manufacturing our own carbon components and as the scale of our operation increases.

Our ATS·3F tissue heart valves are manufactured in our ISO 9001 certified facility in Lake Forest, California. Most of the materials used to construct the valve leaflets are supplied by a limited number of vendors. We currently operate one manufacturing shift at the Lake Forest facility. During the fourth quarter of 2006 we began ramping up our tissue valve production in preparation for a 2007 market launch of the ATS 3F Aortic Bioprosthesis. In addition, we also manufacture significant quantities of our next generation tissue valves for use in preclinical and clinical testing. These initiatives have resulted in low production yields and inefficiencies. As our tissue valve volume increases, we expect our yields will rise and our process will become more efficient. We do not manufacture or produce products we sell or service for the surgical treatment of cardiac arrhythmias, heart valve repair, or cardiovascular allograft tissues.

We believe that our properties are adequate to serve our business operations for the foreseeable future. At our Plymouth, Minnesota facility and our sales offices for our foreign subsidiaries in France and Germany, we warehouse our mechanical valve inventories and products for cardiac arrhythmias and heart valve repair.

We maintain a comprehensive quality assurance and quality control program, which includes documentation of all material specifications, operating procedures, equipment maintenance, and quality control test methods. Our documentation systems comply with appropriate Food and Drug Administration (FDA) and ISO 13485 requirements.

RESEARCH AND DEVELOPMENT

Our research and development activities include developing new products, improving our current products, and the clinical and regulatory activities to support our products. These activities are carried out in our Plymouth facilities, although we work with physicians, research hospitals, and universities around the world. None of this work is funded by customers or other outside institutions. The development process for any new product can range from several months to several years, primarily depending on the regulatory pathway required for approval. Research and development expenses totaled $3.4 million, net of $14.4 million of in-process research and development related to the 3F acquisition, in 2006, $1.7 million in 2005 and $1.0 million in 2004. At the end of 2006 our research and development headcount totaled 17 employees.

FINANCIAL INFORMATION ABOUT SEGMENTS

Since our inception, we have operated in the single industry segment of developing, manufacturing, and marketing medical devices.

SEASONALITY

Our sales and operating results have varied and are expected to continue to vary significantly from quarter to quarter as a result of seasonal patterns. We expect that our business will be seasonal, with the third quarter of each year typically having the lowest sales, due to vacation and time-off periods in our international markets, especially Europe.

PATENTS AND PROPRIETARY TECHNOLOGY

Our policy is to protect our proprietary position by obtaining U.S. and foreign patents to protect technology, inventions and improvements important to the development of our business. The original patent obtained by CarboMedics under which our valve was developed expired in 2004. We subsequently made modifications to the basic design. We were issued a U.S. patent covering our design improvements to the ATS Open Pivot Heart Valve in October 1994. This patent expires in 2011. We have also filed patent applications in Japan, Belgium, France, Germany, Netherlands, Spain, Switzerland and the United Kingdom relating to the design improvements. Patents have been granted in all of these countries. We cannot be certain that any patents will not be challenged or circumvented by competitors.

We also rely on trade secrets and technical know-how in the manufacture and marketing of the ATS Open Pivot Heart Valve. We typically require our employees, consultants and contractors to execute confidentiality agreements with respect to our proprietary information.

We claim trademark protection on ATS Medical(TM) and ATS Open Pivot(R). U.S. trademark and service mark registrations are generally for a term of 10 years, renewable every 10 years as long as the trademark is used in the regular course of trade. We have also been granted rights by certain partners to use their trademark(s) in our sales and marketing activities of their products and services.

Our ATS 3F tissue valves are supported by an extensive intellectual property portfolio. We own 35 issued U.S. patents that protect our core technology in the tissue valve market. In addition, we have filed for a number of patents and extended patent coverages for relevant geographies outside the United States. These patents expire on various dates ranging from May 2009 to February 2024, with 12 of the patents expiring in 2013, and 12 in the period from 2021 to 2024. The effect of these patents is to give us the right to preclude third parties from making, using, selling or offering to sell products which infringe upon the claims made in each of these patents within the jurisdiction of the country where the patent is issued. We believe that the claims covered by the issued patents are broad, and cover many unique attributes of the products we plan for commercialization and the processes we use to fabricate these products.

GOVERNMENT REGULATION

United States

Numerous governmental authorities, principally the FDA and corresponding state and foreign regulatory agencies, strictly regulate our products and research and development activities. The Federal Food, Drug, and Cosmetic Act, the regulations promulgated under this act, and other federal and state statutes and regulations, govern, among other things, the pre-clinical and clinical testing, design, manufacture, safety, efficacy, labeling, storage, record keeping, advertising and promotion of medical devices. The FDA classifies our ATS Open Pivot Heart Valve as a Class III device, which is subject to the highest level of controls.

Generally, before we can market a new medical device, we must obtain marketing clearance through a 510(k) premarket notification, approval of a premarket approval application ("PMA") or approval of product development protocol ("PDP"). A PMA or PDP application must be submitted if a proposed device does not qualify for a 510(k) premarket clearance procedure. It generally takes several months from the date of a 510(k) submission to obtain clearance, but it may take longer, particularly if a clinical trial is required. The PMA and PDP process can be expensive, uncertain, require detailed and comprehensive data and generally take significantly longer than the 510(k) process.

If human clinical trials of a device are required, either for a 510(k) submission or a PMA application, the sponsor of the trial, usually the manufacturer or the distributor of the device, must file an investigational device exemption ("IDE") application prior to commencing human clinical trials. The IDE application must be supported by data, typically including the results of animal and/or laboratory testing. If the IDE application is approved by the FDA and one or more appropriate institutional review boards ("IRBs"), human clinical trials may begin at a specific number of investigational sites with a specific number of patients, as approved by the FDA. If the device presents a non-significant risk to the patient, a sponsor may begin the clinical trial after obtaining approval for the study by the IRBs without separate approval from the FDA. Submission of an IDE does not give assurance that the FDA will approve the IDE and, if it is approved, there can be no assurance the FDA will determine that the data derived from the studies support the safety and efficacy of the device or warrant the continuation of clinical trials. An IDE supplement must be submitted to and approved by the FDA before a sponsor or investigator may make a change to the investigational plan that may affect its scientific soundness, study indication or the rights, safety or welfare of human subjects.

We are also subject to FDA regulations concerning manufacturing processes and reporting obligations. These regulations require that manufacturing steps be performed according to FDA standards and in accordance with documentation, control and testing standards. The FDA monitors compliance with its good manufacturing practices regulations by conducting periodic inspections. We are required to provide information to the FDA on adverse incidents as well as maintain a detailed record keeping system in accordance with FDA guidelines.

The advertising of our products is also subject to both FDA and Federal Trade Commission regulations. In addition, we will be subject to the "fraud and abuse" laws and regulations promulgated by the U.S. Department of Health and Human Services and the U.S. Health Care Finance Administration if we sell the ATS Open Pivot Heart Valve to Medicare or Medicaid patients. Under these regulations, it is a criminal offense (subject to certain exceptions) to

knowingly or willfully offer, pay, solicit, or receive remuneration in order to induce business for which reimbursement may be provided under a federal healthcare program.

If the FDA believes we are not in compliance with law, it can institute proceedings to detain or seize products, issue a recall, enjoin future violations and assess civil and criminal penalties against us and our officers and employees. If we fail to comply with these regulatory requirements, our business, financial condition and operating results could be harmed. In addition, regulations regarding the manufacture and sale of our products are subject to change. We cannot predict the effect, if any, that these changes might have on our business, financial condition and operating results.

International

In order to market our products in European and other foreign countries, we must obtain required regulatory approvals and comply with extensive regulations governing product safety, quality and manufacturing processes. These regulations vary significantly from country to country and with respect to the nature of the particular medical device. The time required to obtain these foreign approvals to market our products may be longer or shorter than in the United States, and requirements for licensing may differ from FDA requirements.

In order to market our products in the member countries of the European Union, we are required to comply with the medical devices directive and obtain CE mark certification. The CE mark denotes conformity with European standards for safety and allows certified devices to be sold in all European Union countries. Under the medical devices directives, all medical devices, including active implants and *in vitro* diagnostic products, must qualify for CE marking.

THIRD-PARTY REIMBURSEMENT

In the United States, healthcare providers that purchase medical devices, including our products, generally rely on third-party payors, including Medicare, Medicaid, private health insurance carriers and managed care organizations, to reimburse all or part of the cost and fees associated with the procedures performed using these devices. The commercial success of the ATS Open Pivot Heart Valve will depend on the ability of healthcare providers to obtain adequate reimbursement from third-party payors for the surgical procedures in which our products are used. Third-party payors are increasingly challenging the pricing of medical products and procedures. Even if a procedure is eligible for reimbursement, the level of reimbursement may not be adequate. In addition, third-party payors may deny reimbursement if they determine that the device used in the treatment was not cost-effective or was used for a non-approved indication.

In international markets, market acceptance of the ATS Open Pivot Heart Valve depends in part upon the availability of reimbursement from healthcare payment systems. Reimbursement and healthcare payment systems in international markets vary significantly by country. The main types of healthcare payment systems in international markets are government-sponsored healthcare and private insurance. Countries with government-sponsored healthcare, such as the United Kingdom, have a centralized, nationalized healthcare system. New devices are brought into the system through negotiations between departments at individual hospitals at the time of budgeting. In many of the countries where we market, the government sets an upper limit of reimbursement for various valve types. In most foreign countries, there are also private insurance systems that may offer payments for alternative devices.

We have pursued reimbursement for our ATS Open Pivot Heart Valve internationally through our independent distributors. While the healthcare financing issues in these countries are substantial, we have been able to sell the ATS Open Pivot Heart Valve to private clinics and nationalized hospitals in each of the countries served by our distributors.

All third-party reimbursement programs, whether government-funded or insured commercially, inside the United States or outside, are developing increasingly sophisticated methods of controlling health care costs through prospective reimbursement and capitation programs, group purchasing, redesign of benefits, second opinions required prior to major surgery, careful review of bills, encouragement of healthier lifestyles and exploration of more cost-effective methods of delivering healthcare. These types of programs can potentially limit the amount that healthcare providers may be willing to pay for medical devices.

PRODUCT LIABILITY AND INSURANCE

Cardiovascular device companies are subject to an inherent risk of product liability and other liability claims in the event that the use of their products results in personal injury. Mechanical heart valves are life-sustaining devices, and the failure of any heart valve usually results in the death of the patient. We have not received any reports of mechanical failure of our valves implanted to date. Any product liability claim could subject us to costly litigation, damages and adverse publicity.

We currently maintain a product liability insurance policy with an annual coverage limit of $25 million in the aggregate. We are financially responsible for any uninsured claims or claims which exceed the insurance policy limits. Product liability insurance is expensive for mechanical valves. If insurance becomes completely unavailable, we must either develop a self-insurance program or sell without insurance. The development of a self-insurance program would require significant capital.

EMPLOYEES

As of December 31, 2006, we employed approximately 254 full-time and part-time employees. Our employees are vital to our success. We believe we have been successful in attracting and retaining qualified personnel. We believe our employee relations are good.

EXECUTIVE OFFICERS OF THE REGISTRANT

Our executive officers are as follows:

Name	Age	Position
Michael D. Dale	47	Chief Executive Officer, President and Director
Maria-Teresa Ajamil	59	Vice President, International Markets
Richard A. Curtis	42	Vice President, Corporate Development
W. Allen Putnam	59	Vice President, Regulatory, Clinical and Quality
Michael R. Kramer	30	Acting Chief Financial Officer
David R. Elizondo	39	Vice President, Research and Development and General Manager, Tissue Operations

Michael D. Dale has served as our Chief Executive Officer, President and Director since October 2002. From 2000 to 2002, Mr. Dale was Vice-President of Worldwide Sales and Marketing at Endocardial Solutions, Inc., a company that develops, markets and distributes an advanced cardiac mapping system. Mr. Dale joined Endocardial Solutions, Inc. in December 1998 as Vice President Worldwide Sales. From 1996 to 1998, Mr. Dale was Vice President of Global Sales for Cyberonics, Inc., a medical device company, and was managing director of Cyberonics Europe S.A. From 1988 to 1996, Mr. Dale served in several capacities at St. Jude Medical, Inc., a cardiovascular medical device company, and most recently served as the Business Unit Director for St. Jude Europe. Mr. Dale is on the Board of Directors of Enpath Medical, Inc., a medical products company that designs, develops, manufactures and markets percutaneous delivery solutions.

Maria-Teresa (Terrie) Ajamil was appointed an executive officer of ATS in September 2005. Ms. Ajamil joined ATS in January 2004 as General Manager of Asia Pacific Markets and has served as Vice President, International Markets since September 2004. Prior to joining ATS, Ms. Ajamil was Vice President of Emerging Markets at St. Jude Medical, Inc., a cardiovascular medical device company, from September 1993 to December 2002. In 1992 and 1993, Ms. Ajamil served as Vice President of Marketing for Pharmacia Deltec, a medical device company. Ms. Ajamil also spent 16 years at 3M, Inc., a multi-national diversified technology and consumer products company, in numerous positions of international operations, marketing and sales in several of 3M's healthcare divisions.

Richard A. Curtis joined ATS as our Vice President of Marketing and Business Development in December 2002 and was appointed Vice President of Corporate Development in December 2006. Prior to joining ATS, Mr. Curtis was Vice President of Corporate Development at Cardinal Health, Inc., a provider of healthcare products and services, from September 2001 to November 2002. From 1999 to 2001, Mr. Curtis was Vice President of Business Development for Hill-Rom, Inc., a provider of patient care environment and therapy solutions, and from 1997 to 1999, he was a Director of Corporate Development at Hillenbrand Industries, a health care and funeral services provider.

W. Allen Putnam has served as our Vice President of Regulatory, Clinical and Quality since March 2006. Prior to joining ATS, Mr. Putnam was engaged by the Company as a consultant. Mr. Putnam founded RCQ Strategies, a regulatory, clinical and quality consulting proprietorship in 2000, and consulted for numerous companies prior to his employment with the Company. For approximately eight months during 2004, Mr. Putnam was employed as the Principle Investigator for Phygen, Inc., a privately-held medical product sterilization company. From 1993 to 2000, Mr. Putnam was Vice President of Regulatory, Clinical and Quality for Urologix, Inc., a medical device company, and from 1992 to 1993, he was President and Chief Operating Officer of Uroplasty, Inc., also a medical device company. Mr. Putnam was Vice President of Regulatory and Quality for St. Jude Medical, Inc., a cardiovascular medical device company, from 1989 to 1992.

Michael R. Kramer has served as our Senior Director of Finance since September 2006 and was appointed Acting Chief Financial Officer in February 2007. Prior to joining ATS, Mr. Kramer was engaged by the Company as an independent financial consultant. From February 2005 to May 2006, Mr. Kramer was the Controller at CABG Medical, Inc., a cardiovascular device manufacturer. During 2004, Mr. Kramer was a Corporate Finance Manager at Ecolab, Inc., a developer and marketer of products and services to the hospital, foodservice, healthcare and industrial markets. From December 1999 through July 2004, Mr. Kramer worked at Ernst & Young LLP, a global professional services firm, where he served as a manager in the assurance and advisory services practice from September 2002 until his departure.

David R. Elizondo has served as our Vice President of Research and Development and General Manager, Tissue Operations, since September 2006. From July 2000 to August 2006, Mr. Elizondo served in several capacities at Boston Scientific Corporation, a developer of technologies and products for interventional and surgical procedures, and most recently served as the Director of New Business Development for Boston Scientific's Cardiology Division.

AVAILABLE INFORMATION

Copies of our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and amendments to those reports filed or furnished to the Securities and Exchange Commission pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (Exchange Act) are available free of charge through our website (www.atsmedical.com) as soon as reasonably practicable after we electronically file the material with, or furnish it to, the Securities and Exchange Commission.

ITEM 1A. RISK FACTORS

Our business faces many risks. Any of the risks discussed below, or elsewhere in this Form 10-K or our other filings with the Securities and Exchange Commission, could have a material impact on our business, financial condition or operating results. Additional risks and uncertainties not presently known to us or that we currently believe to be immaterial may also impair our business operations.

If our mechanical heart valve does not achieve widespread market acceptance in the United States, our operating results will be harmed and we may not achieve profitability.

Our success will depend, in large part, on the medical community's acceptance of the ATS mechanical heart valve in the United States, which is the largest revenue market in the world for heart valves. The U.S. medical community's acceptance of the ATS heart valve will depend upon our ability to demonstrate the safety and efficacy, advantages, long-term clinical performance and cost-effectiveness of the ATS heart valve as compared to other prosthetic heart valves. We cannot predict whether the U.S. medical community will accept the ATS heart valve or, if accepted, the extent of its use. Negative publicity resulting from isolated incidents involving the ATS heart valve or other prosthetic heart valves could have a significant adverse effect on the overall acceptance of our heart valve. If we encounter difficulties developing a market for the ATS heart valve in the United States, we may not be able to increase our revenue enough to achieve profitability, and our business and operating results will be seriously harmed.

We currently rely on the ATS heart valve as our primary source of revenue. If we are not successful in selling this product, our operating results will be harmed.

While we commenced marketing additional products during 2005 that totaled 18% of net revenues for the year ended December 31, 2006 there can be no assurance that these new products will decrease our dependence on the sales of mechanical heart valves. Increasing revenues from new products cannot be guaranteed. Even if we were to develop additional products, regulatory approval would likely be required to sell them. Clinical testing and the approval process itself are very expensive and can take many years. Therefore, we do not expect to be in a position to sell additional products in the foreseeable future. Adverse rulings by regulatory authorities, product liability lawsuits, the failure to achieve widespread U.S. market acceptance, the loss of market acceptance outside of the United States, or other adverse publicity may significantly and adversely affect our sales of the ATS heart valve, and, as a result, would adversely affect our business, financial condition and operating results.

The anticipated benefits of acquiring 3F may not be realized.

We completed the acquisition of 3F on September 29, 2006 and expect that the merger will result in various benefits, including, among others, an expanded heart valve product line, enhanced revenues, a strengthened market position for ATS in the heart valve industry, cross-selling opportunities, technology, cost savings and operating efficiencies. However, achieving the anticipated benefits of the merger is subject to a number of uncertainties, including whether 3F's development-stage products are ultimately marketable, whether we are able to integrate 3F in an efficient and effective manner, and general competitive factors in the marketplace. Failure to achieve these anticipated benefits could result in increased costs, decreases in the amount of expected revenues and diversion of management's time and energy, and could materially impact our business, financial condition and operating results.

We may have difficulty integrating 3F and may incur substantial costs in connection with the integration.

Integrating 3F's operations into our business will be a complex, time-consuming and expensive process. Before the merger, ATS and 3F operated independently, each with its own business, products, customers, employees, culture and systems. We may experience material unanticipated difficulties or expenses in connection with the integration of 3F due to various factors, including:

- retaining and integrating management and other key employees of the combined company;
- costs and delays in implementing common systems and procedures and integrating 3F's products and operations into our business;
- difficulty comparing financial reports due to differing financial and accounting systems;
- diversion of management resources from the business of the combined company;
- reduction or loss of customer sales due to the potential for market confusion, hesitation and delay; and
- difficulty in combining distribution arrangements for the combined company's products and services.

We do not have experience in integrating operations on the scale represented by the merger with 3F, and it is not certain that we can successfully integrate 3F in a timely or efficient manner, or at all, or that any of the anticipated benefits of the merger will be realized. Failure to do so could have a material adverse effect on the business, financial condition and operating results of the combined company.

In addition, many of the factors listed above are outside the control of either company. The time and expense associated with converting the businesses into a single, combined company may exceed management's expectations and limit or delay the intended benefits of the transaction. To the extent any of these events occur, the benefits of the transaction may be reduced, at least for a period of time. In addition, it is possible that unexpected transaction costs, such as taxes, fees or professional expenses, or unexpected future operating expenses, such as increased personnel costs, as well as other types of unanticipated adverse developments, could have a material adverse effect on our business, financial condition and operating results.

In 2002, we began using a combination of direct sales persons and independent manufacturing representatives to sell our valves in the United States. If our U.S. sales strategy is not successful, we will not be able to continue our operations as planned.

Our sales approach for the sale of the ATS heart valve in the United States consists primarily of direct salespersons with a few independent manufacturers' representatives. We will need to continue to expend significant funds and management resources to develop and maintain this hybrid sales force. We believe that there is significant competition for sales personnel and independent manufacturing representatives with the advanced sales skills and technical knowledge we need. If we are unable to recruit, retain and motivate qualified personnel and representatives, U.S. sales of the ATS heart valve could be adversely affected. The loss of key salespersons or independent manufacturer's representatives could have a material adverse effect on our sales or potential sales to current customers and prospects serviced by such salespersons or representatives. Further, we cannot assure the successful expansion of our network of independent manufacturer's representatives on terms acceptable to ATS, if at all, or the successful marketing of our products by our hybrid sales force. To the extent we rely on sales through independent manufacturer's representatives, any revenues we receive will depend primarily on the efforts of these parties. We do not control the amount and timing of marketing resources that these third parties devote to our product. If our U.S. sales strategy is not successful, we may be forced to change our U.S. sales strategy again. Any such change could disrupt sales in the United States. Further, any change in our U.S. sales strategy could be expensive and would likely have a material adverse impact on our operating results.

We currently depend on the marketing and sales efforts of international independent distributors.

The ATS mechanical and tissue heart valves are sold internationally through independent distributors. The loss of an international distributor could seriously harm our business and operating results if a new distributor could not be found on a timely basis in the relevant geographic market. We do not control the amount and timing of marketing resources that these third parties devote to our product. Furthermore, to the extent we rely on sales through independent distributors, any revenues we receive will depend primarily on the efforts of these parties.

We are dependent upon sales outside the United States, which are subject to a number of risks including a drop in sales due to currency fluctuations.

For the year ended December 31, 2006, 61% of our net sales were derived from international operations. We expect that international sales will account for a substantial majority of our revenue until the ATS mechanical heart valve receives wider market acceptance from U.S. customers and until 3F obtains pre-market approval to sell its 3F Aortic Bioprosthesis or other products in the United States. Accordingly, any material decrease in foreign sales may materially and adversely affect our operating results.

We sell in U.S. dollars to most of our customers abroad. An increase in the value of the U.S. dollar in relation to other currencies can and has adversely affected our sales outside of the United States. In prior years, the decrease in sales was due primarily to the change in the value of the U.S. dollar against the Euro, as well as competitor price pressure. Our dependence on sales outside of the United States will continue to expose us to U.S. dollar currency fluctuations for the foreseeable future.

Our future operating results could also be harmed by risks inherent in doing business in international markets, including:

- unforeseen changes in regulatory requirements and government health programs;
- weaker intellectual property rights protection in some countries;
- new export license requirements, changes in tariffs or trade restrictions;
- political and economic instability in our target markets;
- greater difficulty in collecting payments from product sales; and
- lengthy/extended credit terms

We have a history of net losses. If we do not have net income in the future, we may be unable to continue our operations.

We are not currently profitable and have a very limited history of profitability. We had net losses of approximately $16.6 million for the 2004 fiscal year, $14.4 million for the 2005 fiscal year and $27.7 million for the 2006 fiscal year. As of December 31, 2006, we had an accumulated deficit of approximately $109.6 million. We expect to incur significant expenses over the next several years as we continue to devote substantial resources to the commercialization and marketing of the ATS heart valve in the United States. We will not generate net income unless we are able to significantly increase revenue from U.S. sales. If we continue to sustain losses, we may not be able to continue our business as planned.

In addition, if the benefits of the merger with 3F do not exceed the associated costs, the combined company could be adversely affected by incurring additional or even increased losses from its operations. Our ability to succeed after the merger depends on making our combined operations profitable through increased revenue and reduced expenses for the combined company. If we fail to make our combined operations profitable through increased revenue and decreased expenses, it would harm our business, financial condition and operating results.

Purchase accounting treatment of the merger with 3F could result in net losses for the foreseeable future.

We have accounted for the merger with 3F using the purchase method of accounting. Under purchase accounting, the estimated market value of shares of our common stock issued in the merger and the amount of the merger transaction costs will be recorded as the cost of acquiring 3F. That cost has been allocated to the individual assets acquired and liabilities assumed, including various identifiable intangible assets such as acquired technology, acquired trademarks and tradenames, based on their estimated fair values at the date of acquisition. The excess of the purchase price over the fair market value of the net assets has been allocated as goodwill. The amount of initial purchase price currently allocated to goodwill and the other intangible assets in connection with the acquisition of 3F is approximately $12.2 million. Our estimates are based upon currently available information and assumptions that we believe are reasonable. We continue the process of gathering information to finalize the valuation of certain assets, primarily the valuation of acquired intangible assets. However, there can be no assurance that the actual useful lives will not differ significantly from the current estimates. The amortization of other intangible assets could result in net losses for ATS for the foreseeable future, which could have a material adverse effect on the market value of our common stock.

We have a history of regularly raising funds and incurring debt to fund net losses. If our current cash and investment balances are inadequate to carry us to profitability, we may need to raise equity or incur debt in the future.

During the last three years, we have completed financings to fund our operations. If our future operations require greater cash than our current balances, we would again be required to raise equity or issue debt. Furthermore, there may be delays in obtaining necessary governmental approvals of our products or introducing products to market or other events that may cause actual cash requirements to exceed those for which we have budgeted. In such event, we would need additional financing. If we were unable to raise these funds, we may not be able to continue our business as planned.

The market for prosthetic heart valves is highly competitive, and a number of our competitors are larger and have more financial resources. If we do not compete effectively, our business will be harmed.

The market for prosthetic heart valves is highly competitive. We expect that competition will intensify as additional companies enter the market or modify their existing products to compete directly with us. Our primary competitor in mechanical heart valves, St. Jude Medical, Inc., currently controls approximately 50% of the worldwide market. Edwards Lifesciences PVT, Inc., our primary competitor in the tissue heart valve market, currently controls approximately 60% of the worldwide market. Many of our competitors have long-standing FDA approval for their valves and extensive clinical data demonstrating the performance of their valves. In addition, they have greater financial, manufacturing, marketing and research and development capabilities than we have. For example, many of our competitors have the ability, due to their internal carbon manufacturing facilities and economies of scale, to manufacture their heart valves at a lower cost than we can manufacture our ATS heart valve. Our primary competitor has recently used price as a method to compete in several international markets. If heart valve prices

decline significantly, we might not be able to compete successfully, which would harm our business, financial condition and operating results.

Our future results will be harmed if the use of mechanical heart valves declines or if our tissue heart valves cannot be successfully marketed.

Our business could suffer if the use of mechanical heart valves declines. Historically, mechanical heart valves have accounted for over two-thirds of all heart valve replacements. Recently, there has been an increase in the use of tissue valves. We estimate that mechanical heart valves are currently being used in 40% to 65% of all heart valve replacements, depending on the geographic market, down from 65% to 75% roughly ten years ago. We believe the tissue manufacturers' claims of improvements in tissue valve longevity and an increase in the average age of valve patients have contributed to the recent increase in the use of tissue valves. In addition, there can be no guarantee that we will be able to successfully market and sell our tissue heart valves or that our tissue heart valves will be approved or gain market acceptance.

Our business may be adversely affected if we are unable to maintain our strategic distribution arrangements.

In 2006, revenues from non-mechanical heart valve products increased to 18% of total revenue from 0% in 2004. Some of our distributed products contain performance criteria which we must obtain to retain our rights under these arrangements. Additionally, these arrangements provide certain circumstances under which our rights may be terminated (i.e. change-in-control). If we are unable to maintain these arrangements, our business, financial condition and operating results may be adversely affected.

We ultimately may experience a delay in introducing, or may not successfully complete development of, products that are currently under development, resulting in harm to our business.

We are in the process of developing certain products, including but not limited to, the Enable and Entrata products. The Enable product is currently in the early phases of clinical trials, and the Entrata product is still under development. Successfully completing the development of these products and technologies presents substantial technical, medical and engineering challenges, as well as regulatory hurdles. In 2006, ongoing clinical trial results in Europe resulted in our undertaking a review of the Enable valve cuff design. We may not successfully complete the development of these products, or these products may fail to work in the manner intended. If we are unable to successfully develop the products that are currently under development, we may suffer financial difficulties, which may have a material adverse effect on our business, financial condition and operating results.

New products or technologies developed by others could render our product obsolete.

The medical device industry is characterized by significant technological advances. Several companies are developing new prosthetic heart valves based on new or potentially improved technologies. Significant advances are also being made in surgical procedures, which may delay the need for replacement heart valves. A new product or technology may emerge that renders the ATS heart valve noncompetitive or obsolete. This could materially harm our operating results or force us to cease doing business altogether.

The merger with 3F may result in a loss of customers and suppliers.

Some customers may seek alternative sources of products and/or services after the effectiveness of the 3F merger due to, among other reasons, a desire not to do business with the combined company or perceived concerns that the combined company may not continue to support and develop certain product lines. The combined company could experience some customer attrition after the merger. Difficulties in combining operations also could result in the loss of providers and potential disputes or litigation with customers, providers or others.

We license patented technology and other proprietary rights from CarboMedics. If these agreements are breached or terminated, our right to manufacture the ATS mechanical heart valve could be terminated.

Under our carbon technology agreement with CarboMedics, we have obtained a license to use CarboMedics' pyrolytic carbon technology to manufacture components for the ATS heart valve. If this agreement is breached or terminated, we would be unable to manufacture our own product. If our inventory is exhausted and we do not have any other sources of carbon components, we would be forced to cease doing business.

A delay or interruption in our manufacturing of pyrolytic carbon components could delay product delivery or force us to cease operations.

Although we anticipate that our manufacturing capacity will be sufficient to meet our current and foreseeable carbon component needs, if our inventory is exhausted and we are unable to manufacture carbon components, it is unlikely that we will be able to obtain the necessary carbon components from any other source. If we are unable to obtain these carbon components from other sources, we could be forced to reduce or cease operations.

Because we lack manufacturing experience, we may not realize expected savings from manufacturing our own product. In addition, we could experience production delays and significant additional costs.

Under our agreement with CarboMedics, we have been granted an exclusive worldwide license to manufacture pyrolytic carbon components for the ATS heart valve. We cannot be certain that our strategy to establish internal manufacturing capabilities will result in a cost-effective means for manufacturing the ATS heart valve. We have limited experience in manufacturing pyrolytic carbon. Although we have an FDA-approved carbon manufacturing facility, we have only started increasing our production. In the future, as we continue to increase production, we may encounter difficulties in maintaining and expanding our manufacturing operations, including problems involving:

- production yields;
- quality control;
- per unit manufacturing costs;
- shortages of qualified personnel; and
- compliance with FDA and international regulations and requirements regarding good manufacturing practices.

Difficulties encountered by us in establishing or maintaining a commercial-scale manufacturing facility may limit our ability to manufacture our heart valve and therefore could seriously harm our business, financial condition and operating results.

Our business could be seriously harmed if third-party payers do not reimburse the costs for our heart valve.

Our ability to successfully commercialize the ATS mechanical heart valve depends on the extent to which reimbursement for the cost of our product and the related surgical procedure is available from third-party payers, such as governmental programs, private insurance plans and managed care organizations. Third-party payers are increasingly challenging the pricing of medical products and procedures that they consider not to be cost-effective or are used for a non-approved indication. The failure by physicians, hospitals and other users of our products to obtain sufficient reimbursement from third-party payers would seriously harm our business, financial condition and operating results.

In recent years, there have been numerous proposals to change the health care system in the United States. Some of these proposals have included measures that would limit or eliminate payment for medical procedures or treatments. In addition, government and private third-party payers are increasingly attempting to contain health care costs by limiting both the coverage and the level of reimbursement. In international markets, reimbursement and health care payment systems vary significantly by country. Furthermore, we have encountered price resistance from government-administered health programs. Significant changes in the health care system in the United States or elsewhere, including changes resulting from adverse trends in third-party reimbursement programs, could have a material adverse effect on our business, financial condition and operating results.

We may face product liability claims, which could result in losses in excess of our insurance coverage and which could negatively affect our ability to attract and retain customers.

The manufacture and sale of mechanical heart valves and tissue heart valves entails significant risk of product liability claims and product recalls. Both mechanical heart valves and tissue heart valves are life-sustaining devices, and the failure of any mechanical heart valve usually results in the patient's death or need for re-operation. A product liability claim or product recall, regardless of the ultimate outcome, could require us to spend significant time and money in litigation or to pay significant damages and could seriously harm our business. We currently maintain product liability insurance coverage in an aggregate amount of $25 million. However, we cannot be assured that our current insurance coverage is adequate to cover the costs of any product liability claims made against us. Product liability insurance is expensive and does not cover the costs of a product recall. In the future, product liability insurance may not be available at satisfactory rates or in adequate amounts. A product liability claim or product recall could also materially and adversely affect our ability to attract and retain customers.

Our business would be adversely affected if we are not able to protect our intellectual property rights.

Our success depends in part on our ability to maintain and enforce our patents and other proprietary rights. We rely on a combination of patents, trade secrets, know-how and confidentiality agreements to protect the proprietary aspects of our technology. These measures afford only limited protection, and competitors may gain access to our intellectual property and proprietary information. The patent positions of medical device companies are generally uncertain and involve complex legal and technical issues. Litigation may be necessary to enforce our intellectual property rights, to protect our trade secrets and to determine the validity and scope of our proprietary rights. Any litigation could be costly and divert our attention from the growth of the business. We cannot assure you that our patents and other proprietary rights will not be successfully challenged, or that others will not independently develop substantially equivalent information and technology or otherwise gain access to our proprietary technology.

We may be sued by third parties claiming that our products infringe on their intellectual property rights. Any such suits could result in significant litigation or licensing expenses or we might be prevented from selling our product.

We may be exposed to future litigation by third parties based on intellectual property infringement claims. Any claims or litigation against us, regardless of the merits, could result in substantial costs and could harm our business. In addition, intellectual property litigation or claims could force us to:

- cease manufacturing and selling our product, which would seriously harm us;
- obtain a license from the holder of the infringed intellectual property right, which license may not be available on reasonable terms, if at all; or
- redesign our product, which could be costly and time-consuming.

We may encounter litigation that could have a material impact on our business.

In addition to product liability claims, potential litigation over intellectual property infringement claims and the CarboMedics litigation described in Item 3. "Legal Proceedings," we also may be subject to other lawsuits, proceedings and claims arising in the ordinary course of business or otherwise. Although we do not believe that any lawsuits, claims or proceedings arising in the ordinary course of business will have a material adverse impact on our business, operating results or financial condition, it is possible that unfavorable resolutions of any lawsuits, claims or proceedings could have an adverse effect on our business, results of operation or financial condition because of the uncertainty inherent in litigation.

We are subject to extensive governmental regulation, which is costly, time consuming and can subject us to unanticipated delays or could ultimately preclude us from marketing and selling our products.

Our heart valve and our manufacturing activities are subject to extensive regulation by a number of governmental agencies, including the FDA and comparable international agencies, as well as other federal, state, local and international authorities. We are required to:

- obtain the approval of the FDA or international regulatory authorities where our heart valves are not yet marketed;
- after obtaining approval or clearance of the FDA or international regulatory authorities, maintain the approval of the FDA and international regulatory authorities to continue selling and manufacturing our heart valves;
- satisfy content requirements for all of our labeling, sales and promotional materials;
- comply with manufacturing and reporting requirements; and
- undergo rigorous inspections by these agencies.

Compliance with the regulations of these governmental authorities may delay or prevent us from introducing any new or improved products. The governmental authorities in charge of making and implementing these laws or related regulations may change the laws, impose additional restrictions, or adopt interpretations of existing laws or regulations that could have a material adverse effect on us. Violations of these laws or regulatory requirements may result in fines, marketing restrictions, product recall, withdrawal of approvals and civil and criminal penalties. We also may incur substantial costs associated with complying and overseeing compliance with the laws and regulations of these governmental authorities.

We ultimately may not be able to obtain the necessary governmental approvals or clearances in the United States or other jurisdictions, including FDA and CE approvals and clearances, for products that are now under development, including our 3F Aortic Bioprosthesis, Enable and Entrata products. Obtaining these governmental approvals or clearances is uncertain, and the regulatory approval process is likely to be time-consuming and expensive. If we are unable to obtain such governmental approvals or clearances, then our ability to market and sell products currently under development may be delayed or may never occur. Our potential inability to market and sell our products currently under development, together with the potential expenses associated with obtaining the necessary governmental approvals or clearances, may cause us to suffer financial difficulties, which could have a material adverse effect on our business, financial condition and prospects.

The price of our common stock has been volatile, which may result in losses to investors.

Historically, the market price of our common stock has fluctuated over a wide range and it is likely that the price of our common stock will fluctuate in the future. The market price of our common stock could be impacted by the following:

- the success of our management in operating ATS effectively;
- the failure of our heart valves to gain market acceptance in the United States;
- announcements of technical innovations or new products by our competitors;
- the status of component supply arrangements;
- changes in reimbursement policies;
- government regulation;
- developments in patent or other proprietary rights;
- public concern as to the safety and efficacy of products developed by us or others; and
- general market conditions.

In addition, due to one or more of the foregoing factors, in future years our operating results may fall below the expectations of securities analysts and investors. In that event, the market price of our common stock could be materially and adversely affected. Finally, in recent years the stock market has experienced extreme price and volume fluctuations. This volatility has had a significant effect on the market prices of securities issued by many companies for reasons unrelated to their operating performance. These broad market fluctuations may materially adversely affect our stock price, regardless of our operating results.

Our charter documents and Minnesota law may discourage and could delay or prevent a takeover of our company.

Provisions of our articles of incorporation, bylaws and Minnesota law could make it more difficult for a third party to acquire us, even if doing so would be beneficial to our shareholders. These provisions include the following:

- No cumulative voting by shareholders for directors;
- The ability of our Board of Directors to control its size, to create new directorships and to fill vacancies;
- The ability of our Board of Directors, without shareholder approval, to issue preferred stock, which may have rights and preferences that are superior to our common stock;
- The ability of our Board of Directors to amend the bylaws; and
- Restrictions under Minnesota law regarding mergers or other business combinations between us and any holder of 10% or more of our outstanding common stock.

ITEM 1B. UNRESOLVED STAFF COMMENTS

Not Applicable.

ITEM 2. PROPERTIES

We lease approximately 56,000 square feet of space in two buildings in Plymouth, Minnesota. One lease, covering approximately 33,000 square feet, expires on March 31, 2009 and is used for administrative, production and engineering purposes. The lease on the other 23,000 square feet expires July, 2008 and is used for carbon manufacturing. We also lease approximately 16,000 square feet of space in Lake Forest, California. This lease expires on September 30, 2009 and is used for research and development and manufacturing purposes. Outside the United States, we lease four sales and marketing offices in China, France, Germany, and Austria. We believe that our facilities are adequate for our current needs.

ITEM 3. LEGAL PROCEEDINGS

Abbey Litigation

On January 23, 2006, following execution of the Merger Agreement between the Company and 3F, 3F was informed of a summons and complaint dated January 19, 2006, which was filed in the U.S. District Court in the Southern District of New York by Arthur N. Abbey ("Abbey") against 3F Partners Limited Partnership II (a major stockholder of 3F, "3F Partners II"), Theodore C. Skokos (the then chairman of the board and a stockholder of 3F), 3F Management II, LLC (the general partner of 3F Partners II), and 3F (collectively, the "Defendants") (the "Abbey I Litigation"). The summons and complaint alleges that the Defendants committed fraud under federal securities laws, common law fraud and negligent misrepresentation in connection with the purchase by Abbey of certain securities of 3F Partners II. In particular, Abbey claims that the Defendants induced Abbey to invest $4 million in 3F Partners II, which, in turn, invested $6 million in certain preferred stock of 3F, by allegedly causing Abbey to believe, among other things, that such investment would be short-term. Pursuant to the complaint, Abbey is seeking rescission of his purchase of his limited partnership interest in 3F Partners II and return of the amount paid therefore (together with pre-and post-judgment interest), compensatory damages for the alleged lost principal of his investment (together with interest thereon and additional general, consequential and incidental damages), general damages for all alleged injuries resulting from the alleged fraud in an amount to be determined at trial and such other legal and equitable relief as the court may deem just and proper. Abbey did not purchase any securities directly from 3F and is not a stockholder of 3F. On March 23, 2006, 3F filed a motion to dismiss the complaint. Under the Private Securities Litigation Reform Act, no discovery will be permitted until the judge rules upon the motion to dismiss. On May 15, 2006, 3F filed and served a reply memorandum of law in further support of its motion to dismiss Abbey's complaint with prejudice.

On or about June 14, 2006, Abbey commenced a second civil action in the Court of Chancery in the State of Delaware by serving 3F with a complaint naming both 3F and Mr. Skokos as defendants (the "Abbey II Litigation"). The complaint alleges, among other things, fraud and breach of fiduciary duties in connection with the

purchase by Abbey of his partnership interest in 3F Partners II. The Delaware action seeks: (1) a declaration that (a) for purposes of the merger, Abbey was a record stockholder of 3F and was thus entitled to withhold his consent to the merger and seek appraisal rights after the merger was consummated and (b) the irrevocable stockholder consent submitted by 3F Partners II to approve the merger be voided as unenforceable; and (2) damages based upon allegations that 3F aided and abetted Mr. Skokos in breaching Mr. Skokos's fiduciary duties of loyalty and faith to Abbey. On July 17, 2006, 3F filed a motion to dismiss the complaint in the Abbey II Litigation, or, alternatively, to stay the action pending adjudication of the Abbey I Litigation. On October 10, 2006, the Delaware Chancery Court entered an order staying the Delaware action pending the outcome of the Abbey I litigation.

3F has been notified by its director and officer insurance carrier that such carrier will defend and cover all defense costs as to 3F and Mr. Skokos in the Abbey I Litigation and Abbey II Litigation, subject to policy terms and full reservation of rights. In addition, under the merger agreement, 3F and the 3F stockholder representative have agreed that the Abbey I Litigation and Abbey II Litigation are matters for which express indemnification is provided. As a result, the escrow shares and milestone shares, if any, may be used by ATS to satisfy, in part, ATS's set-off rights and indemnification claims for damages and losses incurred by 3F or ATS, and their directors, officers and affiliates, that are not otherwise covered by applicable insurance arising from the Abbey I Litigation and Abbey II Litigation. See Note 2 of "Notes to Consolidated Financial Statements" in this Report for a description of the escrow and milestone shares. We believe that the Abbey I Litigation and Abbey II Litigation will not result in a material impact on our financial position or operating results.

CarboMedics Litigation

On January 26, 2007, we were served with a complaint filed by CarboMedics against ATS in United States District Court in the District of Minnesota on November 22, 2006. The complaint alleges that we have breached certain contractual obligations, including an alleged obligation to purchase $22 million of MHV carbon components under a long-term supply agreement with CarboMedics which obligation CarboMedics contends had been scheduled to re-commence in 2007. See "Item 1. Business – Our Markets and Products – Prosthetic Heart Valve Market – Relationship with CarboMedics" in this Form 10-K for more information regarding our relationship with CarboMedics. See "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations – Contractual Obligations" in this Form 10-K for more information regarding the purchase obligation.

The complaint seeks specific enforcement of the supply agreement, revocation of certain intellectual property rights purchased by ATS from CarboMedics, and monetary damages in excess of $75,000. We believe that the complaint filed by CarboMedics is without merit, that CarboMedics has repudiated and breached the long-term supply agreement, and that we have affirmative claims against CarboMedics. On February 16, 2007, we filed our answer and counterclaim to the complaint, including counterclaims for breach of contract, anticipatory repudiation, deceptive trade practice and business disparagement, and a request for monetary damages. On March 14, 2007 we also filed a motion for judgment on the pleadings regarding CarboMedics request for specific performance of the supply agreement.

ITEM 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS

Not Applicable.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Market Information

Our common stock is traded on the NASDAQ Global Market under the symbol "ATSI." The following table sets forth, for the periods indicated, the high and low closing sales prices per share of our common stock as reported on the NASDAQ Global Market. These prices do not include adjustments for retail mark-ups, mark-downs, or commissions.

Fiscal Year 2005:	High	Low
First Quarter	$4.58	$3.55
Second Quarter	$3.78	$2.99
Third Quarter	$3.84	$3.35
Fourth Quarter	$3.79	$2.72

Fiscal Year 2006:	High	Low
First Quarter	$3.15	$2.46
Second Quarter	$3.00	$2.27
Third Quarter	$2.80	$2.06
Fourth Quarter	$2.63	$2.05

Holders

As of March 2, 2007, we had approximately 520 holders of record of our common stock.

Dividends

We have never declared or paid cash dividends. We intend to retain all future earnings for the operation and expansion of our business. We do not anticipate declaring or paying cash dividends on our common stock in the foreseeable future.

Repurchases of Common Stock

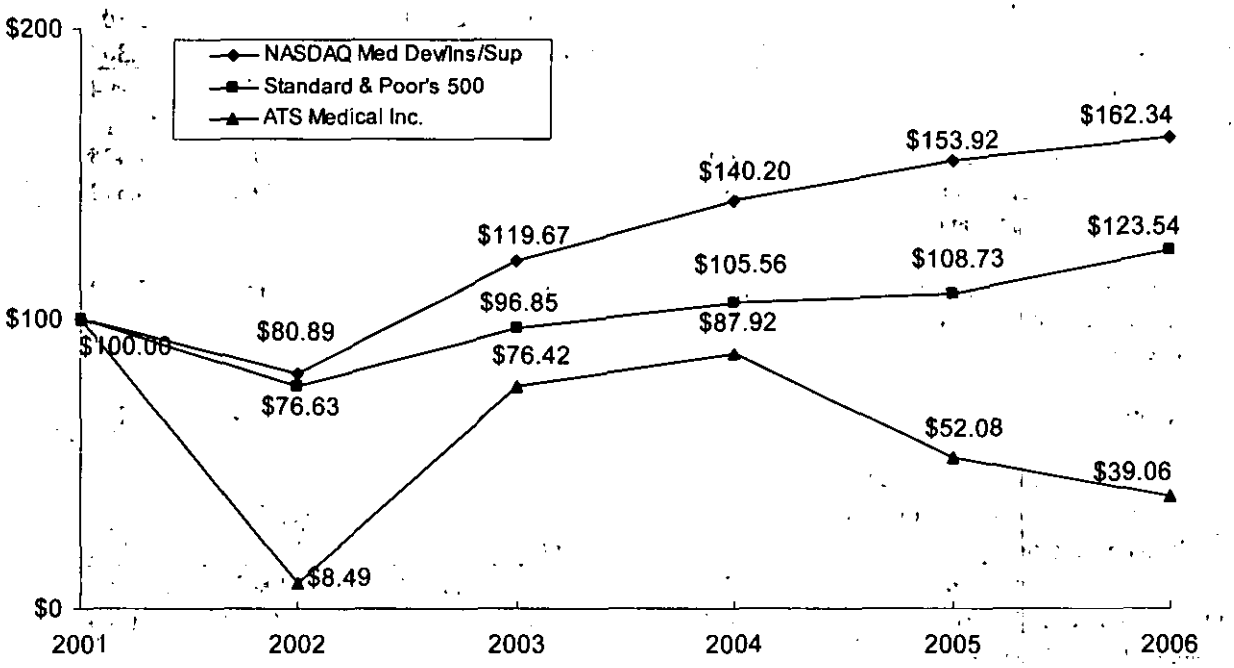
We did not repurchase any of our securities during the fourth quarter of 2006.

Sales of Unregistered Securities

We had no sales of unregistered securities during 2006 that have not been previously disclosed in a Current Report on Form 8-K or Quarterly Report on Form 10-Q.

Performance Graph

The graph below compares the cumulative total shareholder return on our common stock since December 31, 2001 with the cumulative return of the Standard & Poor's 500 Stock Index and the NASDAQ Medical Devices, Instruments and Supplies Index over the same period (assuming the investment of $100 in each vehicle on December 31, 2001 and reinvestment of all dividends).



Name	2001	2002	2003	2004	2005	2006
NASDAQ Medical Dev/Ins/Sup	$100.00	$80.89	$119.67	$140.20	$153.92	$162.34
Standard & Poor's 500 Stock Index	100.00	76.63	96.85	105.56	108.73	123.54
ATS Medical, Inc.	100.00	8.49	76.42	87.92	52.08	39.06

PART II

ITEM 6. SELECTED FINANCIAL DATA

	Year Ended December 31,				
(in thousands, except per share data)	2006	2005	2004	2003	2002
Statement of Operations Data:					
Net sales	$40,449	$34,636	$28,015	$18,484	$13,301
Cost of sales	19,568	22,828	21,227	17,632	12,307
Gross profit	20,881	11,808	6,788	852	994
Operating expenses:					
Sales and marketing	21,008	18,948	16,520	10,180	2,425
Research and development	3,381	1,733	1,011	1,764	3,312
In-process research and development	14,400	-	-	-	-
General and administrative	8,892	7,314	5,954	4,350	3,114
Impairment of technology license	-	-	-	-	8,100
Reorganization expense	-	-	-	-	1,130
Distributor termination expense	733	-	-	-	821
Gain on extinguishment of debt	-	-	-	(2,575)	-
Total operating expenses	48,414	27,995	23,485	13,719	18,902
Operating loss	(27,533)	(16,187)	(16,697)	(12,867)	(17,908)
Interest income (expense)	(1,669)	(338)	54	(425)	(304)
Change in value of derivative liability bifurcated from convertible senior notes	1,528	2,131	-	-	-
Loss before income taxes	(27,674)	(14,394)	(16,643)	(13,292)	(18,212)
Income tax expense	-	-	-	-	-
Net loss	($27,674)	($14,394)	($16,643)	($13,292)	($18,212)
Net loss per share:					
Basic	($0.83)	($0.46)	($0.58)	($0.55)	($0.82)
Diluted	($0.83)	($0.46)	($0.58)	($0.55)	($0.82)
Weighted average number of shares outstanding:					
Basic	33,537	31,009	28,856	24,076	22,259
Diluted	33,537	31,009	28,856	24,076	22,259

	As of December 31,				
(in thousands)	2006	2005	2004	2003	2002
Balance Sheet Data:					
Cash, cash equivalents and short-term investments	$10,704	$21,709	$15,994	$8,475	$9,974
Working capital	32,976	46,417	41,459	31,275	21,674
Total assets	85,840	85,443	79,051	76,134	91,756
Long-term liabilities, excluding current maturities	18,588	19,679	1,826	307	9,514
Shareholders' equity	57,890	57,529	69,441	72,803	74,127

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Executive Overview

We develop, manufacture, and market medical devices. Our primary interest lies with devices used by cardiovascular surgeons in the cardiac surgery operating theater. Currently, we participate in the markets for mechanical bileaflet replacement heart valves, tissue heart valves, allograft tissues, the surgical treatment of atrial fibrillation, and valve repair products, surgical tools and accessories. We also are engaged in a development project for autotransfusion products.

CarboMedics developed the basic design from which the ATS mechanical heart valve evolved. CarboMedics is a large and experienced manufacturer of pyrolytic carbon components used in mechanical heart valves. CarboMedics has also designed and patented numerous mechanical valves. In 1990, CarboMedics offered to license a patented and partially developed valve to us if we would complete the development of the valve and agree to purchase carbon components from CarboMedics. As a result, we now hold an exclusive, royalty-free, worldwide license to an open pivot, bileaflet mechanical heart valve design owned by CarboMedics from which the ATS heart valve has evolved. In addition, we have an exclusive, worldwide right and license to use CarboMedics' pyrolytic carbon technology to manufacture components for the ATS heart valve.

We commenced selling the ATS mechanical heart valve in international markets in 1992. In October 2000, we received FDA approval to sell the ATS Open Pivot® MHV and commenced sales and marketing of our valve in the United States. The original sales forecasts as well as the pricing models that were used when our original supply agreement was signed with CarboMedics proved to be too optimistic. Accordingly, to keep the supply agreement active and the license to sell the valve exclusive, we purchased quantities of inventory far in excess of demand. Because our inventory purchases exceeded our sales through the years, we built up our inventory levels. Since 2002, we have sold these paid-for inventories and used the cash it generated to fund operations. During 2004 and 2005, we developed and implemented a plan to ramp-up our own manufacturing facility for pyrolytic carbon. By the end of 2005, this process was substantially complete.

From 1990 through 2003, we paid CarboMedics approximately $125 million for the development of our valve, the technology to manufacture pyrolytic carbon components, and for pyrolytic valve components manufactured by CarboMedics. By the end of 2002, we had remaining payments due under the technology agreement that totaled $28 million. In 2003, we negotiated an accelerated but reduced payment for all outstanding debts to CarboMedics related to the technology agreement and we paid $12 million to satisfy all future obligations under this agreement.

During 2002, we reorganized the Company, laying off more than half of our work force, including all executive management. With the hiring of a new president late in 2002, we started the process of rebuilding our sales and marketing teams, especially in the United States. This rebuilding is the most significant factor in our operating expense levels during the last four fiscal years. Because sales prices in the United States exceed selling prices in most other markets, we believe that our future success will depend on achieving increased market share in the United States. Our U.S. sales as a percentage of our overall sales have grown from 4% in 2000 to 39% in 2006.

During 2004, we made our first investments outside the mechanical heart valve market by completing two business development agreements. The first, signed in April, was with ErySave AB, for exclusive worldwide rights to ErySave's PARSUS filtration technology for cardiac surgery procedures. We had no revenues in 2005 and 2006 from this technology, nor do we expect to generate any revenue from this technology in 2007. In November 2004, we completed a global partnership agreement with CryoCath Technologies, Inc. to market CryoCath's surgical cryotherapy products for the ablation of cardiac arrhythmias. The agreement with CryoCath has resulted in revenues for our Company since 2005.

During 2005 we continued to develop our business outside the mechanical heart valve market. In June 2005, we entered into an exclusive development, supply and distribution agreement with Genesee BioMedical, Inc., under which GBI will develop, supply, and manufacture cardiac surgical products to include annuloplasty repair rings, c-rings and accessories, and we will have exclusive worldwide rights to market and sell such products. Our agreement with GBI produced revenues for us in 2006. In June 2005, we entered into a marketing services agreement with Regeneration Technologies, Inc. – Cardiovascular. Under the terms of the agreement, RTI-CV appointed us as its exclusive marketing services representative to promote, market and solicit orders for RTI-CV's

processed cardiovascular allograft tissue from doctors, hospitals, clinics and patients throughout North America. The agreement with RTI-CV resulted in revenues for our Company in both 2005 and 2006. However, the cardiovascular tissue processing business of RTI-CV was sold during 2006 and as such RTI-CV is discontinuing its cardiovascular tissue processing operations. Our distribution agreement with RTI-CV will terminate at the end of 2007.

In September 2006, we completed the acquisition of all the voting and non-voting stock of 3F, a privately-held medical device company specializing in manufacturing tissue heart valves. We view the acquisition of 3F as a significant step in executing our vision of obtaining a leadership position in all segments of the cardiac surgery market. The acquisition was consummated pursuant to an agreement and plan of merger dated January 23, 2006, as amended (the "Merger Agreement"). Under the terms of the Merger Agreement, upon closing, we paid each 3F stockholder its pro-rata portion of an initial payment of 9 million shares of our common stock, subject to certain adjustments. In addition to the initial closing payment, we are obligated to make additional contingent payments to 3F stockholders of up to 10 million shares of our common stock with shares issuable upon obtaining each of the CE mark and FDA approval of certain key products on or prior to December 31, 2013. Milestone share payments may be accelerated upon completion of certain transactions involving these key products. The first generation tissue valve, the ATS 3F Aortic Bioprosthesis, has received CE mark and is available for sale in Europe and certain other international geographies. We expect FDA approval of this product in the second half of 2007.

Also in September 2006, we entered into an exclusive distribution agreement with Novare Surgical Systems, Inc. Novare is the owner of the Enclose II® cardiac anastomosis assist device (the "Product"), which is a device used by cardiac surgeons to attach a bypass vessel to the aorta during coronary artery bypass graft surgery. Under the terms of the agreement, we hold the exclusive right to market, sell and distribute the Product in the United States, Germany, France and the United Kingdom. We agreed to pay to Novare a transfer price for each box of Product we purchase. Starting in 2007, we are required to purchase an annual minimum amount of the Product, which increases 15% each year.

Critical Accounting Policies and Estimates

We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances. This discussion and analysis of our financial condition and results of operations is based upon our consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States. The preparation of these financial statements requires us to make estimates and judgments that affect (1) the reported amounts of assets, liabilities, revenues, and expenses and (2) the related disclosure of contingent liabilities. At each balance sheet date, we evaluate our estimates, including but not limited to, those related to accounts receivable, inventories, long-lived assets, and income taxes. The critical accounting policies that are most important in fully understanding and evaluating the financial condition and results of operations are discussed below.

Revenue Recognition Policy. A significant portion of our revenue in the United States, Canada, France, Germany and the U.K. is generated from consigned inventory maintained at hospitals or with field representatives. In these situations, revenue is recognized at the time that the product has been implanted or used. In all other instances, revenue is recognized at the time product is shipped. Certain independent distributors in select international markets receive rebates against invoiced sales amounts. In these situations, we accrue for these rebates at the time of the original sale. The total of these accrued rebates was $0.05 million and $0.10 million as of December 31, 2006 and 2005, respectively. These rebates are treated as a reduction of revenue.

The Company includes shipping and handling costs, net of shipping charges invoiced to customers, in cost of goods sold.

Allowance for Doubtful Accounts. We maintain an allowance for doubtful accounts that is calculated using subjective judgments and estimates to establish this valuation account. Our distribution in international markets through independent distributors concentrates relatively large amounts of receivables in relatively few customer accounts. We have successfully done business with most of these distributors for many years. We monitor amounts that are not paid according to terms. We attempt to accrue for potential losses due to non-payment. Financial conditions in international markets can change very quickly and our allowance for doubtful accounts cannot anticipate all potential changes. Our allowance for doubtful accounts was approximately $0.5 million and $0.4 million at December 31, 2006 and 2005, respectively. As a percentage of total accounts receivable, the allowance

was 4.3% at December 31, 2006 and 3.3% at December 31, 2005. The increase in allowance as a percent of total accounts receivable is due primarily to increasing collection exposures connected with international distributors, primarily in Europe and the Middle East.

Inventory Valuation. Inventories are recorded at the lower of manufacturing cost or net realizable value. We have historically had manufacturing costs exceeding net realizable values in certain international markets requiring us to record write-downs to our inventories due to future selling prices being lower than manufacturing costs in select international markets. These write-downs resulted in lower-of-cost-or-market ("LCM") inventory reserves, which were used as high-cost pyrolytic carbon components purchased from CarboMedics were sold into low selling-price international markets. LCM write-downs were $0.7 million and $0.8 million during 2005 and 2004, respectively. During the first quarter of 2006, the remaining LCM reserves were fully utilized in connection with the depletion of our high-priced, but paid-for, inventories of carbon components discussed above. Consequently, no LCM write-downs were recorded in 2006 and future LCM inventory write-downs are not anticipated.

We maintain an obsolescence allowance against certain finished goods inventories to cover resterilization costs for expired or near-expired items. This allowance totaled $0.2 million at December 31, 2006 and 2005. In addition, we maintain a reserve against work-in-process ("WIP") inventories to cover scrap costs associated with the completion of this WIP inventory. This reserve totaled $0.2 million and $0.3 million at December 31, 2006 and 2005, respectively. We also maintain a finished goods obsolescence reserve against 3F tissue inventories with less than one year shelf-life remaining. This reserve totaled $0.4 million at December 31, 2006.

Intangible Assets. We assess the carrying value of our goodwill and other indefinite-lived intangible assets annually in accordance with the provisions of Statement of Financial Accounting Standard ("SFAS") No. 142, *Goodwill and Other Intangible Assets*. The assessment of potential impairment requires certain judgments and estimates, including the determination of an event indicating impairment, the future cash flows to be generated by the asset, risks associated with those cash flows, and the discount rate to be utilized. As of December 31, 2006, we believe that the carrying value of our intangible assets, including indefinite-lived intangibles, specifically the CarboMedics carbon technology license, the CryoCath agency and distribution agreements and the goodwill recorded in connection with our acquisition of 3F, are recoverable and no impairment charge is currently necessary. Based on our year-end review of our indefinite-lived intangibles, we have determined that our carbon technology license has a finite life and, pending a final analysis in the first quarter of 2007, we will begin amortizing this asset.

Deferred Tax Assets. We have incurred tax losses of approximately $135 million. The losses are carried forward for U.S. and state corporate income taxes and can be used to reduce future taxable income. As a result, at December 31, 2006 we had net deferred tax assets totaling approximately $47.1 million. We have recorded a full valuation allowance against these assets because of the limited lives of the carryforwards and our lack of earnings history, which has resulted in our conclusion that it is not more than likely we will be able to utilize our loss carryforwards.

Convertible Debt and Derivative Instruments. We account for embedded derivatives related to our Convertible Senior Notes under SFAS No. 133, *Accounting for Derivative Instruments and Hedging Activities*, and related Emerging Issues Task Force ("EITF") Interpretations and Securities and Exchange Commission ("SEC") rules, which require certain embedded derivative financial instruments to be bifurcated from the debt agreement and accounted for as a liability. Our Convertible Senior Notes contain several embedded derivatives. The valuation of derivatives requires management to make certain judgments and estimates, including the potential future fair value of our common stock, the probability of a change in control of the Company and the probability that the debt may be put back to or called by us.

Stock-Based Compensation. We account for our stock-based employee compensation plans under the recognition and measurement principles of SFAS No. 123 (Revised 2004), *Share-Based Payment* ("Statement 123(R)"), which revises SFAS No. 123, *Accounting for Stock-Based Compensation*, supersedes APB Opinion No. 25, *Accounting for Stock Issued to Employees*, and amends SFAS No. 95, *Statement of Cash Flows*. Generally, the approach in Statement 123(R) is similar to the approach described in SFAS No. 123. However, Statement 123(R) requires all share-based payments to be recognized in the income statement based on their fair values. Pro forma disclosure is no longer an alternative.

We adopted Statement 123(R) on January 1, 2006, using the modified prospective transition method. In accordance with the modified prospective transition method, we have not restated our consolidated financial statements for prior periods. Under this transition method, stock-based compensation expense for 2006 includes stock-based compensation expense related to our stock-based compensation awards granted in 2006 and those awards granted prior to, but not yet vested as of, January 1, 2006, based on the grant-date fair value estimated in accordance with the provision of SFAS No. 123. Stock-based compensation expense for all stock-based compensation awards granted on or after January 1, 2006 will be based on the grant-date fair value estimated in accordance with the provisions of Statement 123(R). Prior to the adoption of Statement 123(R), we accounted for our stock-based employee compensation plans under the recognition and measurement principles of Accounting Principles Board ("APB") Opinion No. 25 and related interpretations. During 2006, we recognized $1.1 million of stock-based compensation expense and we have $2.0 million of unrecognized compensation expense that will be recognized over a weighted average period of approximately two years.

Results of Operations

The following table provides the dollar and percentage change in our Statements of Operations for 2006 compared to 2005 and 2005 compared to 2004.

(in thousands)	2006	2005	Increase (Decrease)	%	2005	2004	Increase (Decrease)	%
Net sales	$40,449	$34,636	$5,813	16.8%	$34,636	$28,015	$6,621	23.6%
Cost of sales	19,568	22,828	(3,260)	-14.3%	22,828	21,227	1,601	7.5%
Gross profit	20,881	11,808	9,073	76.8%	11,808	6,788	5,020	74.0%
Operating expenses:								
Sales and marketing	21,008	18,948	2,060	10.9%	18,948	16,520	2,428	14.7%
Research and development	3,381	1,733	1,648	95.1%	1,733	1,011	722	71.4%
In-process R&D	14,400	-	14,400	-	-	-	-	-
Distributor termination expense	733	-	733	-	-	-	-	-
General and administrative	8,892	7,314	1,578	21.6%	7,314	5,954	1,360	22.8%
Total operating expenses	48,414	27,995	20,419	72.9%	27,995	23,485	4,510	19.2%
Operating loss	(27,533)	(16,187)	(11,346)	70.1%	(16,187)	(16,697)	510	3.1%
Interest income (expense)	(1,669)	(338)	(1,331)	393.8%	(338)	54	(392)	-725.9%
Change in value of derivative liability bifurcated from convertible senior notes	1,528	2,131	(603)	28.3%	2,131	-	2,131	-
Net loss	($27,674)	($14,394)	($13,280)	92.3%	($14,394)	($16,643)	$2,249	13.5%

The following table presents the statement of operations as a percentage of sales for 2006, 2005, and 2004.

	2006	2005	2004
Net sales	100.0%	100.0%	100.0%
Cost of sales	48.4%	65.9%	75.8%
Gross profit	51.6%	34.1%	24.2%
Operating expenses:			
Sales and marketing	51.9%	54.7%	59.0%
Research and development	8.4%	5.0%	3.6%
In-process R&D	35.6%	0.0%	0.0%
Distributor termination expense	1.8%	0.0%	0.0%
General and administrative	22.0%	21.1%	21.3%
Total operating expenses	119.7%	80.8%	83.8%
Operating loss	-67.0%	-46.7%	-59.6%
Interest income (expense)	-4.1%	-1.0%	0.2%
Change in value of derivative liability bifurcated from convertible senior notes	3.8%	6.2%	0.0%
Net loss	-68.4%	-41.6%	-59.4%

Net Sales. The following table provides the dollar and percentage change in net sales inside and outside the United States and Canada for 2006 compared to 2005 and 2005 compared to 2004.

(in thousands)	2006	2005	Increase	%	2005	2004	Increase	%
United States	$15,704	$13,194	$2,510	19.0%	$13,194	$9,330	$3,864	41.4%
Outside United States	24,745	21,442	3,303	15.4%	21,442	18,685	2,757	14.8%
Total	$40,449	$34,636	$5,813	16.8%	$34,636	$28,015	$6,621	23.6%

The following table provides net sales inside and outside the United States and Canada as a percentage of total net sales for 2006, 2005, and 2004.

	2006	2005	2004
Share of net sales:			
United States	38.8%	38.1%	33.3%
Outside United States	61.2%	61.9%	66.7%
Total	100.0%	100.0%	100.0%

Our primary product line continues to be the mechanical heart valve ("MHV"), which comprised approximately 82% of our worldwide sales base in 2006 and 90% in 2005. Worldwide MHV sales increased 6.6% in 2006 and 10.9% in 2005 compared to the prior year.

Since late 2002, we have been building a new sales organization in the United States, which has grown to five area directors managing more than 25 sales territories. Our representation within these territories consists of both direct sales representatives and independent agents. U.S. and Canadian MHV sales dollars were relatively flat in 2006 and increased 13.4% in 2005 as compared to the prior year. U.S. and Canadian MHV unit sales increased 3.4% in 2006 and 10.2% in 2005 compared to the prior year. The overall mechanical valve market in the United States continues to decline on an annual basis as encroachment of tissue valves persist.

During the last four years we aggressively entered several international markets that represent opportunities for greater mechanical heart valve sales unit growth, but at prices lower than our other direct markets. We believed this

strategy was appropriate because it allowed us to increase our market share while reducing our high priced, but paid-for, inventories. We also believe that our current lower product costs, related to carbon components manufactured internally, allows us to now achieve incremental profit margins in these international markets. MHV sales dollars in international markets increased 12.0% in 2006 and increased 9.7% in 2005, compared to the prior year. International MHV unit sales increased 16.4% in 2006 and increased 17.3% in 2005 compared to the prior year. International ASP was approximately 5% lower for 2006 compared to 2005 due to a shift in sales mix from higher-margin industrialized countries to lower-margin lesser-developed countries. This mix shift was due in part to negotiations in 2006 on a new distribution arrangement with one of our larger industrialized-country distributors.

Both domestic and international net sales in 2006 have been favorably impacted by revenue from the new business initiatives and partnerships discussed above, mainly revenue derived from surgical cryotherapy products, annuloplasty repair rings, c-rings and accessories and processed cardiovascular allograft tissue. Approximately 18% of our worldwide revenue in 2006 was derived from non-mechanical heart valve products commercialized within the past 24 months, up from 10% in 2005.

Cost of Goods Sold and Gross Profit. Our gross profit as a percentage of net sales has improved over the last several years due in part to increased sales in the United States where our MHV average selling prices are much higher than in international markets. Our 2006 gross profit benefited in particular from sales of lower cost valves which are now manufactured entirely in our own facilities. By the end of the first quarter of 2006, we had substantially depleted our high-priced, but paid-for, inventories of carbon components purchased from CarboMedics, and had moved into lower-cost, internally-produced carbon material cost layers. This transition to full in-house manufacture of heart valves favorably impacted our 2006 full-year gross profit by approximately $5.3 million and improved our 2006 gross profit percentage of net sales by approximately 13 percentage points.

Our gross profit as a percentage of net sales was also favorably impacted by our new business initiatives and partnerships discussed above. Revenue and gross profits from our new business initiatives also caused 2006 and 2005 full-year gross profit percentages to be higher by approximately 2.7 and 4.0 percentage points, respectively, as compared to the prior year.

Our 2006 gross profit as a percentage of net sales was negatively impacted by 1) lower international ASPs, as discussed above, 2) 3F manufacturing variances incurred during the transition and integration into ATS, and 3) year-end foreign currency translation adjustments. These three factors combined to lower our 2006 full-year gross margin as a percentage of net sales by approximately 2.7 percentage points.

During 2005 and 2004, we developed and implemented a plan to ramp-up our manufacturing facility for pyrolytic carbon. By the end of 2005, this process was substantially complete. Ramp-up costs totaled approximately $1.8 million and $1.9 million, lowering our full-year gross margin as a percentage of net sales by 5.1 and 6.7 percentage points for 2005 and 2004, respectively.

We made write-downs to our inventories from 2001 through 2005 due to future selling prices being lower than manufacturing costs in select international markets. These write-downs resulted in LCM inventory reserves, which were used as high-cost pyrolytic carbon components purchased from CarboMedics were sold into low selling-price international markets. We recorded LCM write-downs of $0.7 million in 2005 and $0.8 million in 2004, which lowered our full-year gross profit percentage of net sales by 2.0 and 2.9 percentage points, respectively. During the first quarter of 2006, the remaining LCM reserves were fully utilized in connection with the depletion of our high-priced but paid-for inventories of carbon components discussed above. Consequently, there were no LCM inventory write-downs recorded in 2006.

The ATS mechanical heart valve is made of materials that do not deteriorate. Other than the need to resterilize the valves periodically, there is no risk of perishability. Pyrolytic carbon, which is the substrate used in manufacturing our valves, has been the only material used to manufacture mechanical heart valves for humans for many years and remains the most advanced raw material for our products. The other sources of prosthetic heart valves for humans are cadaver and animal tissues. For our mechanical heart valves, obsolescence issues are remote due to certain advantages offered by mechanical heart valves, including superior durability. Similarly, we believe that, given the lead time that would be required, there is no material risk that there would be the introduction and FDA approval of another substrate that would replace pyrolytic carbon prior to the end of the period over which we expect to sell our inventory of valves.

Sales and Marketing. In the United States, our sales and marketing costs rose approximately 6% in both 2006 and 2005 over the prior year, to $14.4 million and $13.6 million, respectively. The 2006 increase is due primarily to $0.6 million of stock compensation expense recognized in 2006 as we implemented Statement 123(R) effective January 1, 2006. Sales and marketing costs in the United States have increased in both 2006 and 2005 as a result of the development of marketing programs to support new products and services and to increase the U.S. market share of our mechanical heart valve. During the past four years, our domestic sales and marketing organization has steadily grown to more than 25 sales territories in the United States and now includes a marketing department with 15 employees.

Internationally, our sales and marketing costs increased over the prior year approximately 23% in 2006 and 46% in 2005, to $6.6 million and $5.4 million, respectively. The increases in 2006 reflect our continued investment in international markets, including the early 2005 set up of direct sales operations in Germany, the establishment of a European support office in the third quarter of 2006 to support the expansion of our direct operations in Europe and higher sales and marketing expenses in Eastern Europe, Asia and China. The cost increases in 2005 also reflect separation costs in France and increased sales management. During the last four years we have established sales and/or distribution operations in France (2003), China (2004), Germany (2005), and Austria (2006).

Research and Development. Research and development ("R & D") increased 95% in 2006 and 71% in 2005 over the prior year due to costs to develop and improve current and future products and the costs for regulatory and clinical activities for these products. The 2006 increase in R & D reflects the addition, in the fourth quarter of 2006, of approximately $1.3 million of research, clinical and regulatory costs for 3F. The increases in R & D spending for both 2006 and 2005 also reflect staff additions, as well as an increase in the number of R & D programs.

In-Process R & D. In connection with our acquisition of 3F, we recorded a non-recurring in-process R & D charge of $14.4 million in the third quarter of 2006. See Note 2 of "Notes to Consolidated Financial Statements" in this report for additional information disclosing the acquisition, including the purchase price and the preliminary allocation of the purchase price.

The in-process R & D relates to the Enable sutureless tissue valve product line. We used the income approach to determine the fair value of IPR&D, applying a risk adjusted discount rate of 37% to the development project's projected cash flows. Enable clinical trials have begun in Europe. European market approval is anticipated in 2009 or 2010 with United States approval to follow approximately 1 year later. The development effort is subject to risks associated with the ultimate clinical efficacy of the Enable product line as well as the results and high costs of the clinical trials.

Distributor Termination Expense. In December 2006, we executed agreements with an international distributor in Europe providing for the termination of the distributor, the conversion of the distributor to a commissioned sales representative effective January 1, 2007, and the buy-back of the distributor's remaining inventory stock. At December 31, 2006, we accrued termination payments to be made to the distributor totaling approximately $0.7 million, payable in two equal installments in the fourth quarter of 2007 and the first quarter of 2008. The value of the inventory to be bought back in 2007 totals approximately $0.7 million.

General and Administrative. During 2006, major cost increases in general and administrative ("G & A") expenses over 2005 were incurred for outside consulting, legal and professional services of $0.8 million, bad debt expense of $0.5 million ($0.3 million of which related to the termination of an international distributor); $0.3 million for bonuses and incentive compensation, and $0.1 million for amortization of intangible assets acquired in connection with our acquisition of 3F. These increases were partially offset by the allocation of 401(k) company match expense from G & A to individual operating departments beginning in 2006.

During 2005, major cost increases in G & A expenses were for employee salary and benefits of $0.3 million, non-cash stock compensation and bonus expense of $0.6 million, legal fees of $0.3 million in support of business development, corporate insurance costs of $0.1 million and outside consulting services of $0.1 million relating primarily to Board of Directors fees.

We recognized total stock compensation expense in 2006 of $1.1 million, of which $0.5 million was included in G & A expenses and $0.6 million in sales and marketing expenses. Of the $1.1 million total stock compensation expense for 2006, approximately $0.5 million was attributable to the implementation of Statement 123(R). Stock compensation expense for 2005 totaled $0.6 million, all of which was charged to G & A.

In December 2005, we authorized the acceleration of vesting of all otherwise unvested stock options held by our employees with an exercise price of $3.00 or greater that had been granted under the Stock Incentive Plan or as a free standing option not under any plan. Options to purchase 1,294,232 shares of common stock (affecting 86 employees) were subject to this acceleration. The decision to accelerate vesting of these options was made primarily to minimize future compensation expense that we would otherwise recognize in our consolidated statement of operations with respect to these options pursuant to Statement 123(R).

Net Interest Income (Expense). In 2006 and 2005, net interest expense was attributable primarily to the October 2005 sale of $22.4 million aggregate principal amount of 6% Convertible Senior Notes, discussed further below. Interest expense on these Notes in 2006 and 2005 was $2.1 million and $0.4 million, respectively, which also includes amortization of (1) financing costs, (2) the discount related to the implied value of common stock warrants sold with the Notes, and (3) the discounts related to the bifurcated Convertible Senior Notes derivatives. See Note 7 of "Notes to Consolidated Financial Statements" in this Report for more information regarding the Convertible Senior Notes conversion feature. Interest expense in 2004 through 2006 was also attributable to the credit facility and bank notes with Silicon Valley Bank, as well as the amortization of the financing costs to set up the credit facility. Interest income was $0.7 million, $0.3 million, and $0.2 million in 2006, 2005 and 2004, respectively, and is attributable to the investment of our cash balances.

Change in Value of Derivative Liability Bifurcated from Convertible Senior Notes. During 2006 and 2005, we recorded non-operating favorable adjustments totaling $1.5 million and $2.1 million, respectively, for the change in the Convertible Senior Notes derivative liability to fair value. See Note 7 of "Notes to Consolidated Financial Statements" in this Report for more information regarding the Convertible Senior Notes derivative liability and our accounting for the related derivative financial instruments under SFAS No.133, *Accounting for Derivative Instruments and Hedging Activities.*

Income Taxes. We have accumulated approximately $135 million of net operating loss ("NOL") carryforwards for U.S. tax purposes. We believe that our ability to fully utilize the existing NOL carryforwards could be restricted on a portion of the NOL for changes in control that may have occurred or may occur in the future and our ability to generate net income. We have not conducted a formal study of whether a change in control of ATS has occurred in the past that impairs our NOL carryforwards because we are unable to utilize such NOL carryforwards until we achieve profitability and because this study would be very expensive to complete. When we attain profitability, we will conduct a formal study of any restrictions on our carryforwards. We have not recorded any deferred tax asset related to our NOL carryforwards and other deferred items as we currently cannot determine that it is more likely than not that this asset will be realized and we, therefore, have provided a valuation allowance for the entire asset.

Net Loss. Our net losses in 2006, 2005 and 2004 were $27.7 million, $14.4 million and $16.6 million. The decrease in our net loss from 2004 to 2005 was due primarily to net sales increasing more than operating expenses. In 2006, the increase in net sales was offset by the $14.4 million non-recurring, in-process R & D charge discussed above.

Liquidity and Capital Resources

Cash, cash equivalents, and short-term investments totaled $10.7 million and $21.7 million at December 31, 2006 and December 31, 2005, respectively.

Operating Activities. During 2006, we received cash payments from customers of approximately $41.5 million and made payments to employees and suppliers of approximately $49.4 million. During 2005, we received cash payments from customers of approximately $32.1 million and made payments to employees and suppliers of approximately $42.5 million. Our operating losses during 2004, 2005 and 2006 were significantly funded through the depletion of inventories. Since 2002, we have incurred significant expenses to commercialize the ATS heart valve in the United States. As we build sales in future periods and our cost of inventories decrease, we believe our operating losses will decrease and we will move steadily towards a cash flow breakeven on sales and eventually to profitability.

Investing Activities. In 2006, we incurred $3.3 million of transaction costs related to the acquisition of 3F, including professional, investment banking, attorneys and accounting fees, offset by $2.6 million in cash acquired in the transaction.

In connection with our global partnership agreements with CryoCath, we have made license fee payments totaling $0.2 million in 2006 and $1.6 million in 2005. These payments are refundable to us upon cancellation of the agreements. In connection with our exclusive development and licensing agreement with ErySave, we have made milestone payments totaling $0.3 million in 2006, $0.3 million in 2005 and $0.2 million in 2004. Future payments under the ErySave agreement, based upon the attainment of developmental milestones, could total an additional $0.7 million. These payments are expected to occur during 2007 and 2008.

We purchased property and equipment of $1.2 million, $2.3 million and $2.9 million during 2006, 2005 and 2004, respectively. Capital purchases during 2005 and 2004 were mainly in support of increasing production in our pyrolytic carbon facility. During 2006, our spending on property and equipment declined as a significant portion of our pyrolytic carbon facility was completed by the end of 2005.

Financing Activities. We received net proceeds of $0.1 million, $0.5 million and $0.8 million during 2006 and 2005 and 2004, respectively, from the issuance of common stock through exercises of stock options and purchases under our employee stock purchase plan. In 2004, we raised $12.4 million through a private placement equity offering, net of offering costs.

Also in 2004 we entered into a secured credit facility consisting of a $2.5 million term note and a $6.0 million line of credit. We fully drew down the $2.5 million term note, which was used to fund equipment purchases for our pyrolytic carbon facility. The term note calls for equal installment payments over 36 months, which commenced in 2005. Accordingly, we made repayments on the note totaling $0.8 million in both 2006 and 2005.

In March 2006, we entered into an amendment to the secured credit facility whereby the bank agreed to waive the prohibition set forth in the credit facility agreement with respect to our acquisition of 3F, and the bank consented to such acquisition. In addition, the bank agreed to provide for advances of up to $1.5 million that we could use to finance or refinance eligible equipment purchased on or after June 1, 2005 and on or before May 31, 2006. We fully drew down the $1.5 million advance amount. Such equipment advances will be amortized over a 60 month period and carry an interest rate of prime plus 1.75%. Repayments on this note in 2006 totaled $0.1 million.

We were subject to certain financial covenants under the secured credit facility agreement, as amended, to maintain a liquidity ratio of not less than 2.0 to 1.0 and a net tangible net worth of at least $40 million. At December 31, 2006, the Company was not in compliance with the liquidity ratio covenant. On February 20, 2007, the Company entered into an amendment to the agreement whereby the liquidity ratio was decreased to be equal to or greater than 1.6 to 1.0 and the tangible net worth requirement was eliminated, bringing the Company into compliance with the liquidity ratio covenant at December 31, 2006. The February 2007 amendment also terminated the line of credit under which we had no outstanding balance at December 31, 2006.

In October 2005, we sold a combined $22.4 million aggregate principal amount of 6% Convertible Senior Notes ("Notes") due in 2025, warrants to purchase 1,344,000 shares of our common stock ("Warrants") and certain embedded derivatives. The Warrants are exercisable at $4.40 per share and expire in 2010. We are using the proceeds from the Notes for general corporate purposes, working capital, capital expenditures and to fund business development opportunities. The first two interest payments on these Notes were paid in April and October 2006.

The Notes are convertible into common stock at any time at a fixed conversion price of $4.20 per share, subject to certain adjustments. If fully converted, the Notes would convert into approximately 5,333,334 shares of our common stock. If the Notes are converted under certain circumstances on or prior to October 15, 2008, we will pay the investors the interest they would have received on the Notes through that date. We have the right to redeem the Notes at 100% of the principal amount plus accrued interest at any time on or after October 20, 2008, and the investors have the right to require us to repurchase the Notes at 100% of the principal amount plus accrued interest on October 15 in 2010, 2015 and 2020. See Note 7 of "Notes to Consolidated Financial Statements" in this Form 10-K for a full description of the terms and provisions of the Notes.

Cash Management

We estimate that operating costs will remain high in comparison to sales during 2007 and will require the use of cash to fund operations. We will draw down cash balances to fund operations during 2007. Based upon the current forecast of sales and operating expenses, we anticipate having cash to fund our operations through 2007. We may raise additional cash in 2007 to provide operating plan leverage, to fund our strategic investments and accelerate the development platforms for our 3F tissue technologies and PARSUS, or to opportunistically add accretive products to our distribution network. As identified in Item 1A of this Form 10-K, any adverse change that affects our revenue, access to the capital markets or future demand for our products will affect our long-term viability. Maintaining adequate levels of working capital depends in part upon the success of our products in the marketplace, the relative profitability of those products and our ability to control operating and capital expenses.

Funding of our operations in future periods may require additional investments in ATS in the form of equity or debt. Any sale of additional equity or issuance of debt securities may result in dilution to our stockholders, and we cannot be certain that additional public or private financing will be available in amounts or on terms acceptable to us, or at all. If we are unable to obtain this additional financing when needed, we may be required to delay, reduce the scope of, or eliminate one or more aspects of our business development activities, which could harm the growth of our business.

Off-Balance Sheet Arrangements

We do not have any "off-balance sheet arrangements" (as such term is defined in Item 303 of Regulation S-K) that are reasonably likely to have a current or future effect on our financial condition, changes in financial condition, revenues or expenses, operating results, liquidity, capital expenditures or capital resources.

Contractual Obligations

The following table sets forth our future payment obligations:

	Payments Due By Period				
(in thousands)	Total	Less Than One year	One to Three Years	Three to Five Years	More than Five Years
Convertible notes payable (1)	$47,936	$1,344	$4,032	$4,032	$38,528
Bank notes payable (1)	2,674	1,308	1,366	-	-
Operating leases	2,711	812	1,856	43	-
Purchase obligations (2)	21,750	5,000	15,000	1,750	-
Total	$75,071	$8,464	$22,254	$5,825	$38,528

(1). Includes interest payments.

(2) Includes MHV component purchases under our supply agreement with CarboMedics. CarboMedics has filed a complaint against us alleging that we breached certain obligations including an alleged obligation to purchase these components. We believe that the complaint is without merit, that CarboMedics has repudiated and breached the supply agreement, and that we have affirmative claims against CarboMedics. See Item 3 "Legal Proceedings – CarboMedics Litigation."

Cautionary Statements

This document contains forward-looking statements within the meaning of federal securities laws that may include statements regarding intent, belief or current expectations of ATS and our management. The Private Securities Litigation Reform Act of 1995 provides a "safe harbor" for forward-looking statements to encourage companies to provide prospective information without fear of litigation so long as those statements are identified as forward-looking and are accompanied by meaningful cautionary statements identifying important factors that could cause actual results to differ materially from those projected in the statement. We desire to take advantage of these "safe harbor" provisions. Accordingly, we have identified in Item 1A of this Form 10-K important risk factors which could cause our actual results to differ materially from any such results which may be projected, forecast, estimated or budgeted by us in forward-looking statements made by us from time to time in reports, proxy statements,

registration statements and other written communications, or in oral forward-looking statements made from time to time by our officers and agents. We do not intend to update any of these forward-looking statements after the date of this Form 10-K to conform them to actual results.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

The primary objective of our investment activities is to preserve principal while at the same time maximizing the income we receive from our investments without significantly increasing risk. Some of the securities that we invest in may have market risk. This means that a change in prevailing interest rates may cause the fair market value of the principal amount of the investment to fluctuate. For example, if we hold a security that was issued with a fixed interest rate at the then prevailing rate and the prevailing interest rate later rises, the fair value of the principal amount of our investment will probably decline. To minimize this risk, our portfolio of cash equivalents and short-term investments may be invested in a variety of securities, including commercial paper, money market funds, and both government and non-government debt securities. The average duration of all our investments has generally been less than one year. Due to the short-term nature of these investments, we believe we have no material exposure to interest rate risk arising from our investments.

In the United States, Canada, the United Kingdom, France and Germany, we sell our products directly to hospitals. In other international markets, we sell our products to independent distributors who, in turn, sell to medical hospitals. Loss, termination, or ineffectiveness of distributors to effectively promote our product would have a material adverse effect on our financial condition and results of operations.

Transactions with U.S. and non-U.S. customers and distributors, other than in France, Germany and the United Kingdom, are entered into in U.S. dollars, precluding the need for foreign currency hedges on such sales. Sales through our French and German subsidiaries are in Euros and sales to the United Kingdom through our European export company are denominated in pounds, so we are subject to profitability risk arising from exchange rate movements. We have not used foreign exchange contract or similar devices to reduce this risk. We will evaluate the need to use foreign exchange contracts or similar devices, if sales in France and Germany increase substantially.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Our Consolidated Financial Statements and the reports of our registered public accounting firm are included in this Annual Report on Form 10-K beginning on page F-1. The index to this report and the financial statements is included in Item 15 below.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

Not Applicable.

ITEM 9A. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

We maintain disclosure controls and procedures, which are designed to ensure that information required to be disclosed in the reports we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to our management, including our chief executive officer, or CEO, and acting chief financial officer, or acting CFO, as appropriate to allow timely decisions regarding required disclosure.

Under the supervision and with the participation of our management, including our CEO and acting CFO, we evaluated the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Rule 13a-15(e) under the Exchange Act) as of the end of the period covered by this annual report. Based on that evaluation, our management, including the CEO and acting CFO, concluded that our disclosure controls and procedures were effective as of December 31, 2006.

Management's Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rule 13a-15(f). Our internal control system was designed to provide reasonable assurance to our management and Board of Directors regarding the preparation and fair presentation of our published financial statements. All internal control systems, no matter how well designed, have inherent limitations. Therefore, even those systems determined to be effective can provide only reasonable assurance with respect to financial statement preparation and presentation.

Under the supervision and with the participation of our management, including our CEO and acting CFO, we conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework in "Internal Control — Integrated Framework" issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO"). During 2006, we acquired 3F. As permitted by the Securities and Exchange Commission ("SEC"), we excluded the 3F operations from our assessment of internal controls over financial reporting as of December 31, 2006. 3F constituted approximately 17 percent of total assets as of December 31, 2006 and less than one percent of net sales for the year then ended. Based on our evaluation under the framework in "Internal Control — Integrated Framework," our management concluded that our internal control over financial reporting was effective as of December 31, 2006.

Management's assessment of the effectiveness of internal control over financial reporting as of December 31, 2006, has been audited by Grant Thornton LLP, the independent registered public accounting firm who also has audited our consolidated financial statements as of and for the year ended December 31, 2006, included in this Form 10-K. Grant Thornton's attestation report on management's assessment of our internal control over financial reporting appears on page F-2 of this Form 10-K.

Changes in Internal Control Over Financial Reporting

There have been no changes in our internal control over financial reporting (as defined in Rule 13a-15(f) under the Exchange Act) during the fiscal quarter ended December 31, 2006 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

See Part I of this Report for certain information regarding our executive officers. Pursuant to General Instruction G (3), reference is made to information contained under the headings "Proposal 1 - Election of Directors", "Committees of the Board of Directors", "Nominations", "Code of Conduct", and "Section 16(a) Beneficial Ownership Reporting Compliance" in our definitive proxy statement for our 2007 Annual Meeting of Shareholders to be filed with the Securities and Exchange Commission on or before April 30, 2007, which information is incorporated herein.

ITEM 11. EXECUTIVE COMPENSATION

Pursuant to General Instruction G (3), reference is made to information contained under the headings "Executive Compensation" and "Compensation of Directors" in our definitive proxy statement for our 2007 Annual Meeting of Shareholders to be filed with the Securities and Exchange Commission on or before April 30, 2007, which information is incorporated herein.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

Pursuant to General Instruction G (3), reference is made to information contained under the heading "Security Ownership of Certain Beneficial Owners and Management" and "Equity Compensation Plans" in our definitive proxy statement for our 2007 Annual Meeting of Shareholders to be filed with the Securities and Exchange Commission on or before April 30, 2007, which information is incorporated herein.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

Pursuant to General Instruction G (3), reference is made to information contained under the headings "Director Independence" and "Related Person Transaction Policy" in our definitive proxy statement for our 2007 Annual Meeting of Shareholders to be filed with the Securities and Exchange Commission on or before April 30, 2007, which information is incorporated herein.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

Reference is made to information contained under the heading "Independent Registered Public Accounting Firm Fees" in our definitive proxy statement for our 2007 Annual Meeting of Shareholders to be filed with the Securities and Exchange Commission on or before April 30, 2007, which information is incorporated herein.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

Financial Statements

Our Consolidated Financial Statements and the Independent Registered Public Accounting Firm's Reports thereon are included herein (page numbers refer to pages following the signature page of this Annual Report on Form 10-K):

Financial Statement Schedules

ATS MEDICAL, INC.
SCHEDULE II - VALUATION AND QUALIFYING ACCOUNTS AND RESERVES
(in thousands)

Description	Balance at Beginning of Period	Additions - Charged to Costs and Expenses	Additions - Charged to Other Accounts - Describe		Deductions - Describe		Balance at End of Period
Valuation Accounts:							
Deducted from asset accounts:							
Year ended December 31, 2006:							
Allowance for doubtful accounts	$360	$493	$11	(4)	($327)	(1)	$537
Allowance for obsolete inventories	$215	$50	$436	(3)	($93)	(2)	$608
Year Ended December 31, 2005:							
Allowance for doubtful accounts	$388	$0	$0		($28)	(1)	$360
Allowance for obsolete inventories	$200	$50	$0		($35)	(2)	$215
Year ended December 31, 2004:							
Allowance for doubtful accounts	$270	$150	$0		($32)	(1)	$388
Allowance for obsolete inventories	$200	$0	$0		$0		$200

(1) Uncollectible accounts written off, net of recoveries.
(2) Changes in estimate recovered through a reduction in expenses.
(3) Obsolescence reserve for inventories recorded in connection with the purchase accounting for the 3F acquisition.
(4) Allowance for doubtful accounts recorded in connection with the purchase accounting for the 3F acquisition.

All other schedules have been omitted because of absence of conditions under which they are required or because the required information is included in the financial statements or notes thereto.

Exhibits

Exhibit Number	Description
2.1***	Agreement and Plan of Merger, dated as of January 23, 2006, by and among ATS Medical, Inc., Seabiscuit Acquisition Corp., 3F Therapeutics, Inc.; and Boyd D. Cox, as Stockholder Representative (Incorporated by reference to Exhibit 10.1of the Company's Current Report on Form 8-K filed on January 26, 2006).
2.2	Amendment No. 1 to Agreement and Plan of Merger, dated as of June 13, 2006, by and among ATS Medical, Inc., Seabiscuit Acquisition Corp., 3F Therapeutics, Inc. and Boyd D. Cox, as stockholder representative (Incorporated by reference to Exhibit 2.1 to the Company's Current Report on Form 8-K filed on June 19, 2006).
2.3	Amendment No. 2 to Agreement and Plan of Merger, dated as of August 10, 2006, by and among the Company, Seabiscuit Acquisition Corp., 3F Therapeutics, Inc. and Boyd D. Cox, as stockholder representative (Incorporated by reference to Exhibit 2.1 to the Company's Current Report on Form 8-K filed on August 15, 2006).
2.4	Escrow Agreement, effective as of September 29, 2006, by and among the Company, Boyd D. Cox, as stockholder representative and Wells Fargo Bank, N.A., filed herewith.

2.5***	Option and Asset Purchase Agreement, dated as of May 31, 2005, by and among ATS Medical, Inc., em Vascular, Inc., Keith L. March, M.D., John Havek, Walter L. Sembrowich and James E. Shapland II, filed herewith.
2.6	Letter Amendment, dated as of November 29, 2006, to the Option and Asset Purchase Agreement, dated as of May 31, 2005, by and among ATS Medical, Inc., em Vascular, Inc., Keith L. March, M.D., John Havek, Walter L. Sembrowich and James E. Shapland II, filed herewith.
3.1	Second Restated Articles of Incorporation of ATS Medical, Inc. (Incorporated by reference to Exhibit 3.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2006 (the "September 2006 Form 10-Q")).
3.2	Bylaws of the Company, as amended February 13, 2007 (Incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed on February 20, 2007).
4.1	Specimen certificate for shares of common stock of the Company (Incorporated by reference to Exhibit 4.1 to the Company's Annual Report on Form 10-K for the year ended December 31, 1997 (the "1997 Form 10-K")).
4.2	Indenture, dated as of October 7, 2005, between ATS Medical, Inc. and Wells Fargo Bank, National Association, as Trustee (Incorporated by reference to Exhibit 4.1 of the Company's Current Report on Form 8-K filed on October 12, 2005 (the "October 12, 2005 Form 8-K")).
4.3	First Supplemental Indenture, dated October 13, 2005, to the Indenture dated as of October 7, 2005, by and between ATS Medical, Inc. and Wells Fargo Bank, National Association, as Trustee (Incorporated by reference to Exhibit 4.3 of the Company's October 18, 2005 Form 8-K).
4.4	Form of 6% Convertible Senior Notes due 2025 (Incorporated by reference to Exhibit 4.1 of the Company's Current Report on Form 8-K filed on October 18, 2005 (the "October 18, 2005 Form 8-K")).
4.5	Form of Warrant (Incorporated by reference to Exhibit 4.2 of the Company's October 18, 2005 Form 8-K).
10.1**	1987 Stock Option and Stock Award Plan, as restated and amended to date (Incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 1997).
10.2**	ATS Medical, Inc. 2000 Stock Incentive Plan, as amended through September 25, 2006 (Incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed on September 29, 2006).
10.3	Reserved.
10.4	Lease Agreement between the Company and Crow Plymouth Land Limited Partnership dated December 22, 1987 (Incorporated by reference to Exhibit 10(d) to the Company's Registration Statement on Form S-18, File No. 33-34785-C (the "Form S-18")).
10.5	Amendment No. 1 to Lease Agreement between the Company and Crow Plymouth Land Limited Partnership, dated January 5, 1989 (Incorporated by reference to Exhibit 10(e) to the Form S-18).
10.6	Amendment No. 2 to Lease Agreement between the Company and Crow Plymouth Land Limited Partnership, dated January 1989 (Incorporated by reference to Exhibit 10(f) to the Form S-18).
10.7	Amendment No. 3 to Lease Agreement between the Company and Crow Plymouth Land Limited Partnership, dated June 14, 1989 (Incorporated by reference to Exhibit 10(g) to the Form S-18).

10.8	Amendment No. 4 to Lease Agreement between the Company and Plymouth Business Center Limited Partnership, dated February 10, 1992 (Incorporated by reference to Exhibit 10.8 to the Company's Annual Report on Form 10-K for the year ended December 31, 1996 (the "1996 Form 10-K")).
10.9*	O.E.M. Supply Contract dated September 24, 1990, with CarboMedics, Inc. (Incorporated by reference to Exhibit 10.10 to the 1996 Form 10-K).
10.10*	License Agreement dated September 24, 1990, with CarboMedics, Inc. (Incorporated by reference to Exhibit 10.11 to the 1996 Form 10-K).
10.11**	Employment Agreement between the Company and Michael D. Dale dated September 18, 2002 (Incorporated by reference to Exhibit 10.12 to the Company's Form 10-K for the year ended 2002 (the "2002 Form 10-K")).
10.12	Helix BioCore, Inc. Self-Insurance Trust Agreement dated February 28, 1991 (Incorporated by reference to Exhibit 10.13 to the 1996 Form 10-K).
10.13*	Amendment 1 to License Agreement dated December 16, 1993, with CarboMedics, Inc. (Incorporated by reference to Exhibit 10.17 to the 1993 Form 10-K).
10.14*	Amendment 4 to O.E.M. Supply Contract dated December 16, 1993, with CarboMedics, Inc. (Incorporated by reference to Exhibit 10.18 to the 1993 Form 10-K).
10.15*	Amendment 5 to O.E.M. Supply Contract dated September 1, 1994, with CarboMedics, Inc. (Incorporated by reference to Exhibit 10.19 to the 1994 Form 10-K).
10.16	Letter Agreement between the Company and Sulzer CarboMedics, Inc., dated June 27, 2002 (Incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 20, 2002).
10.17	Form of International Distributor Agreement (Incorporated by reference to Exhibit 10.22 to the 1994 Form 10-K).
10.18	Reserved.
10.19	Amendment No. 5 to Lease Agreement between the Company and St. Paul Properties, Inc., dated May 30, 1996 (Incorporated by reference to Exhibit 10.22 to the 1996 Form 10-K).
10.20	Reserved.
10.21	Amendment No. 6 to Lease Agreement between the Company and St. Paul Properties, Inc., dated November 25, 1997 (Incorporated by reference to Exhibit 10.23 to the 1997 Form 10-K).
10.22	1998 Employee Stock Purchase Plan, as amended through September 25, 2006 (Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on September 29, 2006).
10.23	Reserved.
10.24*	Carbon Agreement by and between Sulzer CarboMedics, Inc. and ATS Medical, Inc., dated December 29, 1999 (Incorporated by reference to Exhibit 99.1 to the Current Report on Form 8-K filed on January 13, 2000 (the "January 2000 Form 8-K").
10.25*	Amendment 7 to OEM Supply Contract by and between Sulzer CarboMedics, Inc. and ATS Medical, Inc., dated December 29, 1999 (Incorporated by reference to Exhibit 99.2 to the January 2000 Form 8-K).

10.26*	Amendment 2 to License Agreement by and between Sulzer CarboMedics, Inc. and ATS Medical, Inc., dated December 29, 1999 (Incorporated by reference to Exhibit 99.3 to the January 2000 Form 8-K).
10.27	Amendment No. 7 to Lease Agreement between the Company and St. Paul Properties, Inc., dated May 18, 2000 (Incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2000).
10.28	Lease Agreement between the Company and St. Paul Properties, Inc., dated April 29, 2000 (Incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2000).
10.29	Amendment No. 8 to Lease Agreement between the Company and St. Paul Properties, Inc., dated December 14, 2000.(Incorporated by reference to Exhibit 10.32 to the Company's Annual Report on Form 10-K for the year ended December 31, 2000 (the "2000 Form 10-K")).
10.30*	Amendment 8 to OEM Supply Contract by and between Sulzer CarboMedics, Inc. and ATS Medical, Inc., dated November 3, 2000 (Incorporated by reference to Exhibit 10.33 to the 2000 Form 10-K).
10.31	Form of U.S. Distribution Agreement (Incorporated by reference to Exhibit 10.34 to the 2002 Form 10-K).
10.32	Amendment No. 9 to Lease Agreement between the Company and St. Paul Properties, Inc., dated September 8, 2003 (Incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2003).
10.33**	Form of Employee Stock Option Agreement under the company's 2000 Stock Incentive Plan (Incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report of Form 10-Q for the quarter ended September 30, 2004 (the "September 2004 Form 10-Q")).
10.34**	Form of Non-Qualified Stock Option Agreement under the Company's 2000 Stock Incentive Plan (Incorporated by reference to Exhibit 10.3 to the Company's September 2004 Form 10-Q).
10.35**	Form of Non-Plan Non-Qualified Stock Option Agreement (Incorporated by reference to Exhibit 10.4 to the Company's September 2004 Form 10-Q).
10.36*	Development and License Agreement dated as of April 26, 2004 between the Company and ErySave AB (Incorporated by reference to Exhibit 10.1 to the Company's September 2004 Form 10-Q).
10.37	Credit Agreement between Silicon Valley Bank and the Company, dated July 28, 2004 (Incorporated by reference to Exhibit 10.1 to the Company's September 2004 Form 10-Q).
10.38	Amendment No. 10 to Lease Agreement between the Company and St. Paul Properties, Inc. dated as of October 1, 2004 (Incorporated by reference to Exhibit 10.40 to the Company's Annual Report on Form 10-K for the year ended December 31, 2004 (the "2004 Form 10-K")).
10.39*	Agent Agreement dated November 9, 2004 between the Company and CryoCath Technologies, Inc. (Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on May 10, 2005).
10.40*	Distribution Agreement dated November 9, 2004 between the Company and CryoCath Technologies, Inc. (Incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed on May 10, 2005).

10.41	Letter Agreement between the Company and Centerpulse USA Holding Co. dated July 9, 2003 (Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on September 26, 2003).
10.42	Amendment dated June 22, 2005, to Development and License Agreement between the Company and ErySave AB (Incorporated by reference to Exhibit 10.1 of the Company's Quarterly Report on Form 10-Q for the quarter June 30, 2005 (the "June 2005 Form 10-Q")).
10.43*	Marketing Services Agreement with Alabama Tissue Center, Inc. (also known as Regeneration Technologies, Inc. – Cardiovascular), a subsidiary of Regeneration Technologies, Inc., effective as of July 21, 2005 (Incorporated by reference to Exhibit 10.43 of the Company's Annual Report on Form 10-K for the year ended December 31, 2005 (the "2005 Form 10-K")).
10.44*	Exclusive Development, Supply and Distribution Agreement with Genesee BioMedical, Inc., dated June 23, 2005 (Incorporated by reference to Exhibit 10.44 of the 2005 Form 10-K).
10.45	Amendment Agreement, dated March 24, 2005, to the Credit Agreement between Silicon Valley Bank and the Company, dated July 28, 2004 (Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on March 30, 2005).
10.46**	2005 ATS Medical Management Incentive Compensation Plan (Incorporated by reference to Exhibit 10.2 of the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2005).
10.47	Securities Purchase Agreement, dated as of October 6, 2005, by and among ATS Medical, Inc. and the Buyers listed on the Schedule of Buyers attached thereto as Exhibit A (Incorporated by reference to Exhibit 10.1 of the Company's October 12, 2005 Form 8-K).
10.48	Amendment No. 1, dated October 12, 2005, to the Securities Purchase Agreement by and among ATS Medical, Inc. and the Buyers listed therein, dated as of October 6, 2005 (Incorporated by reference to Exhibit 10.1 of the Company's October 18, 2005 Form 8-K).
10.49	Registration Rights Agreement, dated as of October 7, 2005, by and among ATS Medical, Inc. and the Buyers listed on the Schedule of Buyers attached thereto as Exhibit A (Incorporated by reference to Exhibit 10.2 of the Company's October 12, 2005 Form 8-K).
10.50	Amendment No. 1, dated October 13, 2005, to the Registration Rights Agreement by and among ATS Medical, Inc. and the Buyers listed therein, dated as of October 7, 2005 (Incorporated by reference to Exhibit 10.2 of the Company's October 18, 2005 Form 8-K).
10.51	Warrant Agent Agreement, dated as of October 7, 2005, between ATS Medical, Inc. and Wells Fargo Bank, National Association, as Warrant Agent (Incorporated by reference to Exhibit 10.3 of the Company's October 12, 2005 Form 8-K).
10.52**	Form of Lock-Up Agreement with Executive Officers (Incorporated by reference to Exhibit 99.1 of the Company's Current Report on Form 8-K filed on December 29, 2005).
10.53**	Form of Restricted Stock Unit Agreement under the Company's 2000 Stock Incentive Plan (Incorporated by reference to Exhibit 10.53 of the 2005 Form 10-K).
10.54	Amendment, dated March 29, 2006, to the Loan and Security Agreement between Silicon Valley Bank and the Company, dated July 28, 2004 (Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on April 3, 2006).
10.55**	2006 ATS Medical Management Incentive Compensation Plan (Incorporated by reference to Exhibit 10.1 of the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2006 (the "June 2006 Form 10-Q")).

10.56**	Form of Change in Control Agreement executed by executive officers of the Company (Incorporated by reference to Exhibit 10.2 to the Company's June 2006 Form 10-Q).
10.57*	Exclusive Distribution Agreement, effective as of October 1, 2006, by and between the Company and Novare Surgical Systems, Inc. (Incorporated by reference to Exhibit 10.1 to the Company's September 2006 Form 10-Q).
10.58	Amendment No. 2 dated September 1, 2006, to Original Lease Agreement dated April 29, 2000, by and between the Company and St. Paul Properties, Inc. (Incorporated by reference to Exhibit 10.2 to the Company's September 2006 Form 10-Q).
10.59	Amendment No. 11 dated September 1, 2006, to Original Lease Agreement dated December 22, 1987, by and between the Company and St. Paul Properties, Inc. (Incorporated by reference to Exhibit 10.3 to the Company's September 2006 Form 10-Q).
10.60	Amendment, dated August 15, 2006, to the Loan and Security Agreement between Silicon Valley Bank and the Company, dated July 28, 2004 (Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on August 17, 2006).
10.61*	Amendment, effective as of January 1, 2007, to Marketing Services Agreement with Alabama Tissue Center, Inc., (also known as Regeneration Technologies, Inc. – Cardiovascular), filed herewith.
10.62**	Restricted Stock Unit Award Agreement, dated as of December 7, 2006, between the Company and Richard A. Curtis (Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on December 13, 2006).
10.63**	Form of Restricted Stock Unit Award Agreement for awards to Non-Employee Directors under 2000 Stock Incentive Plan (Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on February 20, 2007).
10.64	Amendment Agreement, dated February 15, 2007, to the Loan and Security Agreement between Silicon Valley Bank and the Company, dated July 28, 2004 (Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on February 23, 2007).
21	List of Subsidiaries.
23.1	Consent of Grant Thornton LLP.
23.2	Consent of Ernst & Young LLP.
31.1	Certification of Chief Executive Officer pursuant to Rule 13a-14(a) and Rule 15d-14(a) of the Securities Exchange Act, filed herewith.
31.2	Certification of Chief Financial Officer pursuant to Rule 13a-14(a) and Rule 15d-14(a) of the Securities Exchange Act, filed herewith.
32.1	Certification of the Chief Executive Officer pursuant to 18 U.S.C. Section 1350 as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, filed herewith.
32.2	Certification of the Chief Financial Officer pursuant to 18 U.S.C. Section 1350 as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, filed herewith.

*Pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended, confidential portions of these exhibits have been deleted and filed separately with the Securities and Exchange Commission pursuant to a request for confidential treatment.

**Represents a management contract or compensatory plan or arrangement required to be filed as an exhibit pursuant to Item 15 of Form 10-K.

*** Exhibits and Schedules to the Merger Agreement have been omitted but will be provided supplementally to the Securities and Exchange Commission upon request.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Dated: March 15, 2007

ATS MEDICAL, INC.

By /s/ Michael D. Dale
Michael D. Dale
Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities indicated on March 15, 2007.

Signature	**Title**
/s/ Michael D. Dale Michael D. Dale	Chief Executive Officer, President and Chairman of the Board (principal executive officer)
/s/ Michael R. Kramer Michael R. Kramer	Acting Chief Financial Officer (principal financial and accounting officer)
/s/ Steven M. Anderson Steven M. Anderson	Director
/s/ Theodore C. Skokos Theodore C. Skokos	Director
/s/ Robert E. Munzenrider Robert E. Munzenrider	Director
/s/ Eric W. Sivertson Eric W. Sivertson	Director

Report of Independent Registered Public Accounting Firm

Board of Directors and Shareholders
ATS Medical, Inc.

We have audited the accompanying consolidated balance sheet of ATS Medical, Inc. (the "Company") as of December 31, 2006, and the related consolidated statements of operations, changes in shareholders' equity and cash flows for the year then ended. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the consolidated financial position of the Company as of December 31, 2006, and the results of its operations and its cash flows for the year then ended, in conformity with accounting principles generally accepted in the United States of America.

As discussed in Note 1 to the consolidated financial statements, effective January 1, 2006, the Company changed its method of accounting for share-based payments to adopt Statement of Financial Accounting Standards No. 123(R), *Share-Based Payment.*

Our audit was conducted for the purpose of forming an opinion on the basic financial statements taken as a whole. The accompanying Schedule II is presented for purposes of additional analysis and is not a required part of the basic financial statements. This schedule has been subjected to the auditing procedures applied in the audit of the basic financial statements and, in our opinion, is fairly stated in all material respects in relation to the basic financial statements taken as a whole.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the effectiveness of the Company's internal control over financial reporting as of December 31, 2006, based on criteria established in *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission, and our report dated March 13, 2007 expressed an unqualified opinion on management's assessment of the effectiveness of the Company's internal control over financial reporting and an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

/s/ Grant Thornton LLP

Minneapolis, Minnesota
March 13, 2007

Report of Independent Registered Public Accounting Firm

The Board of Directors and Shareholders
ATS Medical, Inc.

We have audited the accompanying consolidated balance sheet of ATS Medical, Inc. (the "Company") as of December 31, 2005 and the related consolidated statements of operations, changes in shareholders' equity and cash flows for each of the two years in the period ended December 31, 2005. Our audits also included the financial statement schedule presented at Item 15. These financial statements and schedule are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements and schedule based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the consolidated financial position of the Company as of December 31, 2005, and the consolidated results of its operations and its cash flows for each of the two years in the period ended December 31, 2005, in conformity with accounting principles generally accepted in the United States. Also, in our opinion, the related financial statement schedule, when considered in relation to the basic consolidated financial statements taken as a whole, presents fairly, in all material respects, the information set forth therein.

/s/ ERNST & YOUNG LLP

Minneapolis, Minnesota
March 6, 2006, except for Note 7,
as to which the date is July 13, 2006

Report of Independent Registered Public Accounting Firm

Board of Directors and Shareholders
ATS Medical, Inc.

We have audited management's assessment, included in the accompanying Management's Report on Internal Control over Financial Reporting, that ATS Medical, Inc. (the "Company") maintained effective internal control over financial reporting as of December 31, 2006, based on criteria established in *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting. Our responsibility is to express an opinion on management's assessment and an opinion on the effectiveness of the Company's internal control over financial reporting based on our audit.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, evaluating management's assessment, testing and evaluating the design and operating effectiveness of internal control, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinions.

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of the inherent limitations of internal control over financial reporting, including the possibility of collusion or improper management override of controls, material misstatements due to error or fraud may not be prevented or detected on a timely basis. Also, projections of any evaluation of effectiveness of the internal control over financial reporting to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

As indicated in the accompanying "Management's Report on Internal Control over Financial Reporting," management's assessment of and conclusion on the effectiveness of internal control over financial reporting did not include the internal controls of 3F Therapeutics, Inc. ("3F"), which is included in the December 31, 2006 consolidated financial statements of ATS Medical, Inc. and constituted approximately 17 percent of total assets as of December 31, 2006, and less than one percent of net sales for the year then ended. Management did not assess the effectiveness of internal control over financial reporting at 3F as permitted by the Securities and Exchange Commission for entities acquired within the latest fiscal year. Our audit of internal control over financial reporting of ATS Medical, Inc. also did not include an evaluation of the internal control over financial reporting of 3F.

In our opinion, management's assessment that the Company maintained effective internal control over financial reporting as of December 31, 2006, is fairly stated, in all material respects, based on criteria established in *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2006, based on criteria established in *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated financial statements and financial statement schedule of the Company as of and for the year ended December 31, 2006, and our report dated March 13, 2007 expressed an unqualified opinion on those financial statements and financial statement schedule and included an explanatory paragraph related to the Company's change, effective January 1, 2006, in its method of accounting for share-based payments.

/s/ GRANT THORNTON LLP

Minneapolis, Minnesota
March 13, 2007

ATS Medical, Inc.

Consolidated Balance Sheets

(In Thousands, Except Share Data)

	December 31	
	2006	**2005**
Assets		
Current assets:		
Cash and cash equivalents	**$ 4,612**	$ 16,620
Short-term investments	**6,092**	5,089
	10,704	21,709
Accounts receivable, less allowance of $537 in 2006 and $360 in 2005	**11,677**	10,453
Inventories	**18,782**	21,286
Prepaid expenses	**1,175**	1,204
Total current assets	**42,338**	54,652
Leasehold improvements, furniture, and equipment, net	**8,213**	8,330
Goodwill	**5,092**	–
Other intangible assets	**29,263**	22,015
Other assets	**934**	446
Total assets	**$ 85,840**	$ 85,443
Liabilities and shareholders' equity		
Current liabilities:		
Current maturities of note payable	**$ 1,133**	$ 833
Accounts payable	**3,183**	3,598
Accrued compensation	**2,589**	2,394
Accrued distributor liabilities	**1,024**	752
Other accrued liabilities	**1,433**	658
Total current liabilities	**9,362**	8,235
Convertible senior notes payable, net of unamortized discounts and bifurcated derivatives of $5,006 in 2006 and $3,624 in 2005	**17,394**	18,776
Bank notes payable	**1,194**	903
Shareholders' equity:		
Common stock, $0.01 par value:		
Authorized shares – 100,000,000		
Issued and outstanding shares – 40,320,487 in 2006 and 31,114,131 in 2005	**403**	311
Additional paid-in capital	**166,411**	139,743
Accumulated deficit	**(109,569)**	(81,895)
Accumulated other comprehensive income (loss)	**645**	(64)
Unearned compensation	**–**	(566)
Total shareholders' equity	**57,890**	57,529
Total liabilities and shareholders' equity	**$ 85,840**	$ 85,443

See accompanying notes.

ATS Medical, Inc.

Consolidated Statements of Operations

(In Thousands, Except Per Share Amounts)

	Year Ended December 31		
	2006	**2005**	**2004**
Net sales	**$40,449**	$ 34,636	$ 28,015
Cost of goods sold	**19,568**	22,828	21,227
Gross profit	**20,881**	11,808	6,788
Operating expenses:			
Sales and marketing	**21,008**	18,948	16,520
Research and development	**3,381**	1,733	1,011
In-process research and development	**14,400**	–	–
Distributor termination expense	**733**	–	–
General and administrative	**8,892**	7,314	5,954
Total operating expenses	**48,414**	27,995	23,485
Operating loss	**(27,533)**	(16,187)	(16,697)
Interest income	**725**	323	156
Interest expense	**(2,394)**	(661)	(102)
Change in value of derivative liability bifurcated from convertible senior notes	**1,528**	2,131	–
Net loss	**$(27,674)**	$(14,394)	$(16,643)
Net loss per share:			
Basic and diluted	**$ (0.83)**	$ (0.46)	$ (0.58)
Weighted average number of shares outstanding:			
Basic and diluted	**33,537**	31,009	28,856

See accompanying notes.

ATS Medical, Inc.

Consolidated Statement of Changes in Shareholders' Equity

(In Thousands)

	Common Stock Shares	Common Stock Amount	Additional Paid-In Capital	Accumulated Deficit	Accumulated Other Comprehensive Income (Loss)	Unearned Compensation	Total
Balance at December 31, 2003	26,779	$ 268	$ 123,412	$ (50,858)	$ 51	$ (70)	$ 72,803
Stock issued under the Employee Stock Purchase Plan	90	1	297	–	–	–	298
Stock options exercised	334	3	458	–	–	–	461
Stock issued in private placement, net of offering costs	3,687	37	12,381	–	–	–	12,418
Unearned compensation related to stock options	–	–	14	–	–	(14)	–
Amortization of unearned compensation	–	–	–	–	–	60	60
Comprehensive loss:							
Change in foreign currency translation	–	–	–	–	44	–	44
Net loss for the year	–	–	–	(16,643)	–	–	(16,643)
Comprehensive loss							(16,599)
Balance at December 31, 2004	30,890	309	136,562	(67,501)	95	(24)	69,441
Stock issued under the Employee Stock Purchase Plan	120	1	347	–	–	–	348
Stock options exercised	104	1	185	–	–	–	186
Warrants issued in connection with sale of convertible debt securities	–	–	1,522	–	–	–	1,522
Unearned compensation related to stock options and awards	–	–	1,127	–	–	(1,127)	–
Amortization of unearned compensation	–	–	–	–	–	585	585
Comprehensive loss:							
Change in foreign currency translation	–	–	–	–	(159)	–	(159)
Net loss for the year	–	–	–	(14,394)	–	–	(14,394)
Comprehensive loss							(14,553)
Balance at December 31, 2005	31,114	311	139,743	(81,895)	(64)	(566)	57,529
Stock issued under the Employee Stock Purchase Plan	**104**	**1**	**217**	–	–	–	**218**
Stock options exercised	**48**	–	**44**	–	–	–	**44**
Stock issued in connection with the acquisition of 3F Therapeutics	**9,000**	**90**	**26,010**	–	–	–	**26,100**
Stock compensation expense	–	–	**1,103**	–	–	–	**1,103**
Stock issuance costs	–	–	**(45)**	–	–	–	**(45)**
Reclassification of unearned compensation in accordance with the adoption of SFAS 123R	–	–	**(566)**	–	–	**566**	–
Restricted stock units issued	**54**	**1**	**(95)**	–	–	–	**(94)**
Comprehensive loss:							
Change in foreign currency translation	–	–	–	–	**709**	–	**709**
Net loss for the year	–	–	–	**(27,674)**	–	–	**(27,674)**
Comprehensive loss							**(26,965)**
Balance at December 31, 2006	**40,320**	**$ 403**	**$ 166,411**	**$ (109,569)**	**$ 645**	**$ –**	**$ 57,890**

See accompanying notes.

ATS Medical, Inc.

Consolidated Statements of Cash Flows

(In Thousands)

	Year Ended December 31		
	2006	**2005**	**2004**
Operating activities			
Net loss	**$(27,674)**	$(14,394)	$(16,643)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization	**1,924**	1,563	1,088
Loss on disposal of equipment	**26**	35	17
Non-cash interest expense	**463**	138	12
Stock based compensation	**1,103**	585	60
Change in value of derivative liability bifurcated from convertible senior notes	**(1,528)**	(2,131)	–
In-process research and development charge related to 3F acquisition	**14,400**	–	–
Lower of cost or market adjustment	–	700	819
Changes in operating assets and liabilities, net of acquisition:			
Accounts receivable	**1,010**	(2,560)	(2,954)
Inventories	**2,845**	5,317	9,255
Accounts payable and accrued expenses	**(2,075)**	292	3,779
Other	**(324)**	(163)	(543)
Net cash used in operating activities	**(9,830)**	(10,618)	(5,110)
Investing activities			
Purchases of short-term investments	**(10,326)**	(5,503)	(8,688)
Maturities of short-term investments	**9,336**	8,106	2,999
Payments for acquisition, net of cash acquired	**(717)**	–	–
Payments for other intangibles	**(521)**	(1,817)	(232)
Purchases of leasehold improvements, furniture, and equipment	**(1,208)**	(2,278)	(2,860)
Net cash used in investing activities	**(3,436)**	(1,492)	(8,781)
Financing activities			
Proceeds from sale of convertible senior notes, warrants and embedded derivatives, net of financing costs	–	20,817	–
Advances on bank notes payable	**1,500**	–	2,500
Payments on bank notes payable	**(909)**	(764)	–
Net proceeds from issuance of common stock	**123**	534	13,177
Net cash provided by financing activities	**714**	20,587	15,677
Effect of exchange rate changes	**544**	(159)	44
(Decrease) increase in cash and cash equivalents	**(12,008)**	8,318	1,830
Cash and cash equivalents at beginning of year	**16,620**	8,302	6,472
Cash and cash equivalents at end of year	**$ 4,612**	$ 16,620	$ 8,302
Supplemental cash flow information			
Net cash paid during the year for interest	**$ 1,642**	$ 201	$ 82
Significant non-cash transactions:			
Reclassification of unearned compensation to additional paid-in capital in accordance with the adoption of SFAS 123R	**$ 566**	–	–
Reclassification of convertible note derivative liability against related discount	**(1,627)**	–	–
Stock issued for acquisition	**26,100**	–	–

See accompanying notes.

1. Summary of Significant Accounting Policies

Business Activity

ATS Medical, Inc. (the "Company") develops, manufactures, and markets medical devices. The Company operates in one business segment and its interest lies with devices used by cardiovascular surgeons in the cardiac surgery operating theater. Currently, the Company participates in the markets for mechanical bileaflet and live tissue replacement heart valves, allograft tissues, the surgical treatment of atrial fibrillation, and other cardiac surgery devices, tools and accessories.

The Company has recognized net losses of approximately $16.6 million in 2004, $14.4 million in 2005, and $27.7 million in 2006 and has an accumulated deficit of $109.6 million at December 31, 2006. The Company believes it has sufficient cash resources to meet its cash needs through 2007, but it may need to raise additional funds for 2008 and beyond.

Principles of Consolidation

The consolidated financial statements include the accounts of the Company and wholly owned sales and distribution subsidiaries in the U.S., France, Germany (since its inception in February 2005) and Austria (since its inception in July 2006), after elimination of intercompany accounts and transactions. Effective January 1, 2006, the U.S. sales and distribution subsidiary was merged into ATS Medical, Inc.

Cash Equivalents

The Company considers all highly liquid investments with maturities of three months or less at the time of purchase to be cash equivalents. Cash equivalents are carried at cost which approximates market value, and include $0.9 million and $0.4 million in Euro-denominated foreign banks at December 31, 2006 and 2005, respectively.

Short-Term Investments

Short-term investments are comprised of debt securities and are classified as available-for-sale. Available-for-sale securities are carried at cost which approximates fair value.

Accounts Receivable

Credit is extended based on evaluation of a customer's financial condition and, generally, collateral is not required. Accounts receivable are generally due within 30-180 days and are stated at amounts due from customers net of an allowance for doubtful accounts. Accounts receivable outstanding longer than the contractual payment terms are considered past due. The Company determines its allowance by considering a number of factors, including the length of time trade accounts receivable are past due, the Company's previous loss history, the customer's current ability to pay its obligation to the Company, and the condition of the general economy and the industry as a whole. The Company writes off accounts receivable when they become uncollectible, and payments subsequently received on such receivables are credited to the allowance for doubtful accounts.

Inventories

The Company carries and relieves inventories at the lower of cost (first-in, first-out basis) or market. Prior to 2006, write-downs were recorded on a portion of its inventories to provide for the lower of cost or market value expected to be realized on future sales in lesser-developed countries. The write-downs were $0.7 million and $0.8 million in 2005 and 2004, respectively. These write-downs were included in cost of goods sold in the statements of operations.

At December 31, 2006 and 2005, inventories consisted of the following (in thousands):

	2006	2005
Raw materials	$ 4,615	$ 5,047
Work-in-process	2,948	4,462
Finished goods	11,219	11,777
	$18,782	$21,286

Other Assets

Prior to obtaining directors' and officers' liability insurance, the Company had placed monies into a self-insurance trust to provide coverage for potential losses. At December 31, 2006 and 2005, the deposits within the trust amounted to $0.5 million and $0.4 million, respectively, and are included in other assets.

Leasehold Improvements, Furniture, and Equipment

Leasehold improvements, furniture, and equipment are stated at cost. Depreciation is provided using the straight-line method over the estimated useful lives of the assets as follows:

Furniture and fixtures	7 years
Equipment	5 to 17 years
Computers	2 years

Leasehold improvements are amortized over the remaining related lease term or estimated useful life, whichever is shorter.

Indefinite-Lived Intangible Assets

Indefinite-lived intangible assets include technology licenses and agreements and goodwill (see Note 6) and are carried at cost. The Company applies Statement of Financial Accounting Standard ("SFAS") No. 142 "Goodwill and Other Intangible Assets" to its intangible assets, which prohibits the amortization of intangible assets with indefinite useful lives and requires that these assets be reviewed for impairment at least annually. Management reviews indefinite-lived intangible assets for impairment annually as of the last day of the second quarter, or more frequently if a change in circumstances or occurrence of events suggests the remaining value may not be recoverable. The test for impairment requires management to make estimates about fair-value which are based either on the expected undiscounted future cash flows or on other measures of value such as the market capitalization of the Company. If the carrying amount of the assets is greater than the measures of fair value, impairment is considered to have occurred and a write-down of the asset is recorded. Management completed the annual impairment tests in the second quarter of 2006 and determined that the Company's indefinite-lived intangible assets were not impaired.

Revenue Recognition

A significant portion of the Company's revenue in the United States, Canada, France, Germany and the United Kingdom is generated from consigned inventory maintained at hospitals or with field representatives. In these situations, revenue is recognized at the time that the product has been implanted or used. In all other instances, revenue is recognized at the time product is shipped. Certain independent distributors in select international markets receive rebates against invoiced sales amounts. In these situations, the Company accrues for these rebates at the time of the original sale. The total of these accrued rebates was $0.05 million and $0.10 million as of December 31, 2006 and 2005, respectively. These rebates are treated as a reduction of revenue.

The Company includes shipping and handling costs, net of shipping charges invoiced to customers, in cost of goods sold.

Use of Estimates

The preparation of consolidated financial statements in conformity with accounting principles generally accepted in the United States requires management to make estimates and assumptions that affect the amounts reported in the consolidated financial statements and accompanying notes. Actual results could differ from those estimates.

Advertising and Promotional Costs

Advertising and promotional costs are charged to operations in the year incurred. Advertising and promotional costs charged to operations during 2006, 2005, and 2004 were $0.2 million, $0.1 million and $0.1 million, respectively.

Foreign Currency Translation

The financial statements for the Company's European operations are maintained in Euros. All assets and liabilities of the Company's international subsidiaries are translated to U.S. dollars at year-end exchange rates, while the statement of operations is translated at average exchange rates in effect during the year. Translation adjustments arising from the use of differing exchange rates are included in accumulated other comprehensive income (loss) in shareholders' equity. Gains and losses on foreign currency transactions were not significant during 2006, 2005, or 2004. Intercompany receivables/payables are deemed to be of a long-term nature and any transaction gains/losses are recognized in accumulated other comprehensive income (loss).

Income Taxes

The Company accounts for income taxes under SFAS No. 109 "Accounting for Income Taxes." Deferred taxes are provided on an asset and liability method whereby deferred tax assets are recognized for deductible temporary differences and operating loss and tax credit carry forwards and deferred tax liabilities are recognized for taxable temporary differences. Temporary differences are the differences between the amounts of assets and liabilities recorded for income tax and financial reporting purposes. Deferred tax assets are reduced by a valuation allowance when, in the opinion of management, it is more likely than not that some portion or all of the deferred tax assets will not be realized. Deferred tax assets and liabilities are adjusted for the effects of changes in tax laws and rates on the date of enactment.

Warranties

The Company adheres to Financial Accounting Standards Board ("FASB") Interpretation No. 45, *Guarantor's Accounting and Disclosure Requirements for Guarantees, Including Indirect Indebtedness to Others* ("FIN 45"). FIN 45 requires disclosures concerning the Company's obligations under certain guarantees.

The Company has indemnified a supplier of its valve components against claims made or damages assessed as the result of the supplier's manufacture of the valve components. The Company has determined that given its history of no reports of product failures or liability claims, the likelihood of claims and subsequent payments is remote, and accordingly, no liabilities in conjunction with this indemnification have been accrued.

Stock-Based Compensation

The Company has stock-based employee compensation plans, which are described more fully in Note 9. The Company accounts for its stock-based employee compensation plans under the recognition and measurement principles of SFAS No. 123 (Revised 2004), *Share-Based Payment* ("Statement 123(R)"), which revises SFAS No. 123, *Accounting for Stock-Based Compensation*, supersedes Accounting Principles Board ("APB") Opinion No. 25, *Accounting for Stock Issued to Employees*, and amends SFAS No. 95, *Statement of Cash Flows*. Generally, the approach in Statement 123(R) is similar to the approach described in SFAS No. 123. However, Statement 123(R) requires all share-based payments to be

recognized in the income statement based on their fair values. Pro forma disclosure is no longer an alternative.

Statement 123(R) was adopted by the Company on January 1, 2006. The Company adopted Statement 123(R) using the modified prospective transition method. In accordance with the modified prospective transition method, the Company has not restated its consolidated financial statements for prior periods. Under this transition method, stock-based compensation expense for 2006 includes stock-based compensation expense related to the Company's stock-based compensation awards granted in 2006 and those awards granted prior to, but not yet vested as of, January 1, 2006, based on the grant-date fair value estimated in accordance with the provision of SFAS No. 123. Stock-based compensation expense for all stock-based compensation awards granted on or after January 1, 2006 will be based on the grant-date fair value estimated in accordance with the provisions of Statement 123(R).

Net Loss Per Share

Basic net loss per share is computed by dividing net loss by the weighted average shares outstanding and excludes any dilutive effects of restricted stock units, options, warrants, and convertible securities. For all periods presented, diluted net loss per share is equal to basic net loss per share because the effect of including potential common shares for stock options outstanding would have been anti-dilutive. Had net income been achieved, approximately 860,000, 1,214,000 and 1,838,000 shares of common stock equivalents would have been included in the computation of diluted net income per share for the years ended December 31, 2006, 2005 and 2004, respectively.

Convertible Debt and Derivative Instruments

The Company accounts for embedded derivatives related to its convertible senior notes under SFAS No. 133, *Accounting for Derivative Instruments and Hedging Activities,* and related Emerging Issues Task Force ("EITF") and Securities and Exchange Commission ("SEC") rules, which require certain embedded derivative financial instruments to be bifurcated from the debt agreement and accounted for as a liability. The Company determines the value of these derivatives by making judgments and estimates of the probability that future conditions giving rise to such derivatives may occur.

2. Acquisition of 3F Therapeutics, Inc.

On September 29, 2006, the Company completed the acquisition of all the voting and non-voting stock of 3F Therapeutics, Inc. ("3F"), a privately-held medical device company specializing in manufacturing heart tissue valve replacement components. The Company views the acquisition of 3F as a significant step in executing its vision of obtaining a leadership position in all segments of the cardiac surgery market.

The acquisition was consummated pursuant to an agreement and plan of merger dated January 23, 2006, as amended (the "Merger Agreement"). Under the terms of the Merger Agreement, upon closing, the Company paid each 3F stockholder its pro-rata portion of an initial payment of 9 million shares of the Company's common stock, subject to certain adjustments. The Company deposited 1,425,000 shares of the closing payment in escrow to be held for at least 18 months ("escrow period") after closing of the merger to cover potential indemnification claims and certain contingencies. At the conclusion of the escrow period, the balance of the escrow account will be distributed pro-rata to the former holders of 3F capital stock. In addition to the initial closing payment, the Company is obligated to make additional contingent payments to 3F stockholders of up to 10 million shares of the Company's common stock with 5 million shares issuable upon obtaining each of the CE mark and FDA approval of certain key products on or prior to December 31, 2013. Milestone share payments may be accelerated upon completion of certain transactions involving these key products. These contingent payments are subject to certain rights of offset for indemnification claims and certain other events.

Purchase Price

The Company has accounted for the acquisition of 3F as a purchase under U.S. generally accepted accounting principles. Under the purchase method of accounting, the assets and liabilities of 3F were recorded as of the acquisition date, at their respective fair values, and consolidated with those of the

Company. The purchase price allocation is based upon preliminary estimates of the fair value of assets acquired and liabilities assumed. The Company is in the process of gathering information to finalize its valuation of certain assets, primarily the valuation of acquired intangible assets. The purchase price allocation will be finalized once the Company has all the necessary information to complete its estimate, but no later than one year from the acquisition date. The valuation requires the use of significant assumptions and estimates. Critical estimates included, but were not limited to, future expected cash flows and the applicable discount rates. These estimates were based on assumptions that the Company believes to be reasonable. However, actual results may differ from these estimates.

The preliminary purchase price is as follows as of December 31, 2006 (amounts in thousands):

Fair value of ATS common stock	$26,100
Other estimated acquisition-related costs	3,316
	$29,416

Preliminary Purchase Price Allocation

The following table summarizes the preliminary purchase price allocation for the 3F acquisition as of December 31, 2006 (amounts in thousands):

Cash	$ 2,599
Other current assets	2,530
Intangible assets subject to amortization	7,150
Goodwill	5,092
Other long-term assets	519
Acquired in-process research and development	14,400
Current liabilities	(2,874)
Total preliminary purchase price allocation	$29,416

The excess of the purchase price over the fair value of net tangible assets acquired was allocated to specific intangible asset categories and in-process research and development as follows:

(in thousands)	Amount Assigned	Weighted Average Amortization Period
Definite-lived intangible assets:		
Technology – core	$ 5,200	20 years
Technology – developed	700	9 years
Tradenames and trademarks	1,200	15 years
Other	50	7 years
Total definite-lived intangible assets	$ 7,150	18 years
Goodwill	$ 5,092	
Acquired in-process research and development	$14,400	

The Company believes that the estimated intangible assets so determined represent the fair value at the date of acquisition. The Company used the income approach to determine the fair value of the amortizable intangible assets.

The $14.4 million acquired in-process research and development (IPR&D) associated with the acquisition relates to the Enable sutureless tissue valve product line and has been recorded as a non-recurring charge to operations for the year ended December 31, 2006. The Company used the income approach to determine the fair value of IPR&D, applying a risk adjusted discount rate of 37% to the development project's projected cash flows. Enable clinical trials have begun in Europe. European market approval is anticipated in 2009 or 2010 with United States approval to follow approximately 1-2 years later. The

development effort is subject to risks associated with the ultimate clinical efficacy of the Enable product line as well as the results and high costs of the clinical trials.

The results of 3F's operations since the acquisition have been included in the consolidated financial statements.

Pro Forma Results of Operations

The following unaudited pro forma information presents a summary of consolidated results of operations of the Company as if the acquisition of 3F had occurred at the beginning of the earliest period presented. The historical consolidated financial information has been adjusted to give effect to pro forma events that are directly attributable to the merger and are factually supportable. The unaudited pro forma condensed consolidated financial information is presented for informational purposes only. The pro forma information is not necessarily indicative of what the financial position or results of operations actually would have been had the acquisition been completed at the dates indicated. In addition, the unaudited pro forma condensed consolidated financial information does not purport to project the future financial position or operating results of the Company after completion of the acquisition.

	Year Ended December 31,		
(in thousands, except per share data)	2006	2005	2004
Net sales	$ 40,535	$ 34,962	$ 28,249
License revenue	11,031	8,618	-
Total revenue	$ 51,566	$ 43,580	$ 28,249
Net loss	$(13,877)	$(19,042)	$(28,451)
Net loss per share – basic and diluted	$ (0.34)	$ (0.48)	$ (0.71)

License revenue relates to license, supply and training agreements that 3F had with Edwards Lifesciences ("Edwards"). The Edwards agreements were terminated in the fourth quarter of 2006 and no additional license revenue will be recognized.

The pro forma net losses for each year include $0.5 million for the amortization of purchased intangible assets and the increase in depreciation expense of 3F related to the step-up of fixed assets to fair value. The unaudited pro forma financial information for all years excludes the $14.4 million non-recurring charge for acquired in-process research and development.

3. Short-Term Investments

At December 31, 2006 and 2005, the cost of short-term investments held by the Company of $6.1 million and $5.1 million, respectively, had maturity dates of approximately one year or less, approximated their fair value and consisted of the following (in thousands):

	2006	2005
Corporate bonds	$1,879	$2,008
Certificates of deposit	-	1,367
U.S. agency	2,273	1,008
Commercial paper	1,940	706
	$6,092	$5,089

4. Leasehold Improvements, Furniture, and Equipment, net

At December 31, 2006 and 2005, leasehold improvements, furniture, and equipment consisted of the following (in thousands):

	2006	2005
Furniture and fixtures	$ 556	$ 625
Equipment	10,967	9,674
Leasehold improvements	3,473	3,346
Construction in progress	542	810
	15,538	14,455
Less accumulated depreciation	7,325	6,125
	$8,213	$ 8,330

5. Private Placement of Common Stock

In June 2004, the Company completed a private placement of common stock selling 3.7 million shares at $3.55 a share for gross proceeds of $13.1 million. The proceeds were used for general working capital purposes.

6. Goodwill and Other Intangible Assets

Goodwill and intangible assets activity is summarized as follows (in thousands):

	Assets Subject to Amortization			Assets Not Subject to Amortization			
	Deferred Financing Costs	ErySave Development & Licensing Agreement	3F Technology & Trademarks	CryoCath Agency & Distribution Agreements	Carbon Technology License	Goodwill	Total
Balance at December 31, 2004	$ 32	$ 188	-	-	$18,500	-	$18,720
Payments	1,583	262	-	$ 1,555	-	-	3,400
Amortization	(105)	-	-	-	-	-	(105)
Balance at December 31, 2005	1,510	450	-	1,555	18,500	-	22,015
Acquisition of 3F			$ 7,150			$ 5,092	12,242
Payments	7	304		210	-	-	521
Amortization	(317)	-	(106)	-	-	-	(423)
Balance at December 31, 2006	$ 1,200	$ 754	$ 7,044	$ 1,765	$18,500	$ 5,092	$34,355
Aggregate Amortization Expense – Next five years	$ 1,200		$ 2,125				

The deferred financing costs at December 31, 2006 are in connection with the 6% Convertible Senior Notes disclosed in Note 7 below and are being amortized over five years. Amortization of deferred financing costs is estimated at $0.3 million per year for 2007 through 2010 and amortization of 3F technology and trademarks is estimated at $0.4 million per year for 2007 through 2010.

In April 2004, the Company signed an exclusive development and licensing agreement with ErySave AB ("ErySave") and made an initial milestone licensing fee payment of approximately $0.2 million. The agreement grants the Company worldwide rights for ErySave's filtration technology for cardiac surgery procedures. In both 2006 and 2005 the Company made additional licensing fee payments of $0.3 million to ErySave. Future payments under this agreement, based upon the attainment of developmental milestones, could total an additional $0.7 million. Upon payment of all milestones, an evaluation of the life of the technology will be made and an amortization period will be set.

In November 2004, the Company signed an exclusive agency agreement and a distribution agreement with Canadian-based CryoCath Technologies, Inc. ("CryoCath"). The agreements grant the Company co-

promotion rights in the United States as well as exclusive distribution rights in the rest of the world including Europe and Asia for CryoCath's cryotherapy products for the ablation of cardiac arrhythmias. The Company made $0.2 million and $1.6 million in licensing fee payments to CryoCath during 2006 and 2005, respectively. These payments are refundable upon cancellation of the agreements.

The Company holds an exclusive, worldwide right and license to use CarboMedics, Inc.'s ("CarboMedics") pyrolytic carbon technology. The license was originally obtained in 1999. License fee milestone payments were made or accrued from 1999 through 2002, totaling $29 million. An impairment charge of $8.1 million and imputed interest of $2.4 million were charged against the carrying value of the license in 2002. Based on the Company's year-end review of its indefinite-lived intangibles, the Company has determined that the carbon technology license has a finite life and, pending a final analysis in the first quarter of 2007, the Company will begin amortizing this asset. The Company expects the amortization to be approximately $1.2 million per year.

As disclosed in Note 2, the Company acquired certain intangible assets in connection with the September 2006 acquisition of 3F.

SFAS No. 142, *Goodwill and Other Intangible Assets*, guides the accounting treatment for the Company's intangible assets. Under SFAS 142, the CarboMedics license and the exclusive distribution and agency agreements with CryoCath are considered indefinite-lived assets and are therefore not subject to amortization. These intangible assets are considered indefinite-lived due, in the case of the CarboMedics license, to the broad scope and general nature of the technology licensed and, in the case of the CryoCath agreements, to unique contract provisions that encourage renewal of the agreements and provides for agreement cancellation payments which would likely exceed the original license payments made by the Company. Under SFAS 142, the goodwill acquired in the 3F acquisition is not subject to amortization, but must be analyzed for impairment on an annual basis. The goodwill recognized in connection with the acquisition is not tax deductible.

7. Long-Term Debt

Convertible Notes Payable

On October 7, 2005 and October 12, 2005, the Company sold a combined $22.4 million aggregate principal amount of 6% Convertible Senior Notes due 2025 ("Notes"), warrants to purchase 1,344,000 shares of the Company's common stock ("Warrants"), and embedded derivatives. Interest is payable under the Notes each April and October.

The Warrants are exercisable at $4.40 per share and expire in 2010. The Company has reserved 105% of the shares necessary for the exercise of the warrants. The Warrants were valued at $1.13 per share using the Black-Scholes valuation model. The total value of the Warrants on the date of issuance was $1.5 million and was recorded as a discount on the Notes and is being amortized to interest expense over the 20 year life of the Notes using the effective interest method.

The Notes are convertible into common stock at any time at a fixed conversion price of $4.20 per share, subject to adjustment under certain circumstances including, but not limited to, the payment of cash dividends on common stock. If fully converted, the Notes would convert into 5,333,334 shares of the Company's common stock. At the date of issuance of the Notes, the Company had only 19,222 authorized shares of its common stock available for the Note holders if conversion was elected. This shortfall in authorized shares resulted in the Company having to recognize an embedded derivative as explained further in this note.

The Note holders have the right to require the Company to repurchase the Notes at 100% of the principal amount plus accrued and unpaid interest on October 15 in 2010, 2015 and 2020 or in connection with certain corporate change of control transactions. If the Note holders elect to convert the Notes prior to October 15, 2010 in connection with certain corporate change of control transactions, the Company will increase the conversion rate for the Notes surrendered for conversion by a number of additional shares based on the stock price of the Company on the date of the change of control.

The Company has the right to redeem the Notes at 100% of the principal amount plus accrued and unpaid interest at any time on or after October 20, 2008. At any time prior to maturity, the Company may also elect to automatically convert some or all of the Notes into shares of its common stock if the closing price of the common stock exceeds $6.40 for a period as specified in the indenture. If an automatic conversion of the Notes occurs prior to October 15, 2008, the Company will make an additional payment to the Note holders equal to three full years of interest, less any interest actually paid or provided for prior to the conversion date. This payment can be made, at the option of the Company, in either cash or common stock.

The Company agreed to file a Registration Statement on Form S-3 covering the resale of all of the shares of the Company's common stock issuable upon conversion of the Notes and exercise of the Warrants using its best efforts to have the Registration Statement declared effective within 120 days of the closing. Depending on the length of time after this 120 day period for the Registration Statement to be declared effective, the penalty could have ranged from .8% to 1.2% of the principal amount of the Notes and Warrants. The maximum penalty that could have been incurred was approximately $0.6 million. At December 31, 2006, the Company had accrued $0.3 million in Registration Statement penalties. The Registration Statement on Form S-3 was declared effective by the SEC on February 13, 2007.

The Company analyzed all of the above provisions in the Notes and related agreements for embedded derivatives under SFAS No. 133, *Accounting for Derivative Instruments and Hedging Activities,* and related EITF interpretations and SEC rules. The Company has determined that four such provisions in the convertible debt agreement are considered derivatives under SFAS No. 133:

- The embedded written option relating to the common stock that may be potentially issuable upon conversion ("conversion feature derivative")
- The option for Note holders to put back debt to the Company in connection with certain corporate change of control transactions
- The provision relating to an additional payment in connection with the automatic conversion of the Notes prior to October 15, 2008
- The provision to increase the conversion rate in the event of a change in control transaction

The Company prepared valuations of each of the above derivatives and recorded a $5.5 million liability on the date of issuance of the Notes, with an offsetting discount on the Notes. The discount is being amortized to interest expense over the 20 year life of the Notes, using the effective interest method.

At its annual shareholder meeting held on September 25, 2006, the Company received approval from its shareholders to increase its authorized shares to 100,000,000, eliminating the previous deficiency in authorized shares. Since the Company then had sufficient authorized shares to settle the Notes if converted, the conversion feature derivative no longer was required to be accounted for as an embedded derivative under SFAS No. 133. The remaining balance of $1.4 million was reclassified against the discount on the Notes.

The derivative liability is adjusted to fair value on a quarterly basis. The derivative liability was adjusted to fair value at each quarter end during 2006, with the resulting $1.5 million change in valuation for the year credited to other income. The remaining liability was $0.2 million at December 31, 2006. The derivative liability is presented in the balance sheet within the same line as the Convertible Senior Notes payable.

Bank Notes Payable

In 2004, the Company entered into a secured credit facility with a bank, consisting of a $2.5 million term note and a $6.0 million line of credit. The Company fully drew down the $2.5 million term note, which calls for equal installment payments over 36 months, which commenced in February 2005. In March 2006, the Company entered into an amendment to the secured credit facility whereby the bank agreed to waive the prohibition set forth in the credit facility agreement with respect to the Company's acquisition of 3F, and the bank consented to such acquisition. In addition, the bank agreed to provide for advances of up to $1.5 million, which the Company could use to finance or refinance eligible equipment purchased on or after June 1, 2005 and on or before May 31, 2006. Such equipment advances are being amortized over a

60-month period and carry an interest rate of prime plus 1.75%. The Company fully drew down the $1.5 million advance amount, of which $1.4 million was outstanding at December 31, 2006. All Company assets are pledged as collateral on the credit facility.

The Company was subject to certain financial covenants under the secured credit facility agreement, as amended, to maintain a liquidity ratio of not less than 2.0 to 1.0 and a net tangible net worth of at least $40 million. At December 31, 2006, the Company was not in compliance with the liquidity ratio covenant. On February 20, 2007, the Company entered into an amendment to the agreement whereby, effective December 31, 2006, the liquidity ratio was decreased to be equal to or greater than 1.6 to 1.0 and the tangible net worth requirement was eliminated, bringing the Company into compliance with the covenants as amended. The February 2007 amendment also terminated the line of credit. The Company had not drawn any advances and had no outstanding balance on the line of credit at December 31, 2006.

Future maturities of bank notes payable are as follows:

2007	$ 1,133
2008	369
2009	300
2010	300
2011	225
	$ 2,327

8. Employee Stock Purchase Plan

In May 1998, the Company implemented the 1998 ATS Medical, Inc. Employee Stock Purchase Plan. Under the terms of the plan, employees are eligible to purchase common stock of the Company on a quarterly basis. Employees can purchase common stock at 85% of the lesser of the market price of the common stock on the first day of the quarter or the last day of the quarter. The Employee Stock Purchase Plan is deemed to be a compensatory plan under Statement No. 123(R) and the related expense is included in stock compensation expense. The following table summarizes the shares issued and issuance prices under the Plan:

Fiscal Year	Number of Shares	Price Range
2006	103,947	$1.95 – $ 2.38
2005	120,465	$2.54 – $ 3.14
2004	90,203	$2.93 – $ 4.34

9. Common Stock and Stock Options

The Company accounts for its stock-based employee compensation plans under the recognition and measurement principles of SFAS No. 123 (Revised 2004), *Share-Based Payment,* Statement 123(R), which revises SFAS No. 123, *Accounting for Stock-Based Compensation,* supersedes APB Opinion No. 25, *Accounting for Stock Issued to Employees*, and amends SFAS No. 95, *Statement of Cash Flows.* Generally, the approach in Statement 123(R) is similar to the approach described in SFAS No. 123. However, Statement 123(R) requires all share-based payments to be recognized in the income statement based on their fair values. Pro forma disclosure is no longer an alternative.

The Company adopted Statement 123(R) on January 1, 2006, using the modified prospective transition method. In accordance with the modified prospective transition method, the Company has not restated its consolidated financial statements for prior periods. Under this transition method, stock-based compensation expense for 2006 includes stock-based compensation expense related to the Company's stock-based compensation awards granted in 2006 and those awards granted prior to, but not yet vested as of, January 1, 2006, based on the grant-date fair value estimated in accordance with the provision of SFAS No. 123. Stock-based compensation expense for all stock-based compensation awards granted on or after January 1, 2006 will be based on the grant-date fair value estimated in accordance with the provisions of Statement 123(R).

The Company uses the Black-Scholes-Merton ("Black-Scholes") option pricing model as its method for determining fair value of stock option grants, which was also used by the Company for its pro forma information disclosures of stock-based compensation expense as required under SFAS No. 123, prior to the adoption of Statement 123(R). The weighted average per share fair value of these option grants is shown below and was estimated at the date of grant using the Black-Scholes model with the following weighted average assumptions:

Assumptions used:	**2006**	2005	2004
Expected volatility	**0.83**	0.87	0.89
Risk-free interest rate	**4.8%**	3.8%	4.0%
Expected life	**5 years**	7 years	7 years
Dividend yield	**0%**	0%	0%
Weighted average per share fair value of options granted	**$ 2.03**	$ 2.73	$ 3.32

The expected volatility is a measure of the amount by which the Company's stock price is expected to fluctuate during the expected term of options granted. The Company determines the expected volatility solely based upon the historical volatility of the Company's common stock over a period commensurate with the option's expected life. The Company does not believe that the future volatility of its common stock over an option's expected life is likely to differ significantly from the past. The risk-free interest rate is the implied yield available on U.S. Treasury issues with a remaining term equal to the option's expected life on the grant date. The expected life of options granted represents the period of time for which options are expected to be outstanding and is derived from the Company's historical stock option exercise experience and option expiration data. For purposes of estimating the expected life, the Company has aggregated all individual option awards into one group as the Company does not expect substantial differences in exercise behavior among its employees. The dividend yield is zero since the Company has never declared or paid any cash dividends on its common stock and does not expect to do so in the foreseeable future.

The fair value of restricted stock unit awards ("RSUs") is determined based on the closing market price on the award date.

The Company uses the single option (i.e. straight-line) method of attributing the value of stock-based compensation expense for all stock option grants. Upon adoption of Statement 123(R), the Company changed its method of attributing the value of stock-based compensation expense on RSUs from the multiple-option (i.e. accelerated) approach to the single option method. Compensation expense for RSUs awarded prior to January 1, 2006 will continue to be subject to the accelerated multiple option method specified in FASB Interpretation No. 28 ("FIN 28"), *Accounting for Stock Appreciation Rights and Other Variable Stock Option or Award Plans*, while compensation expense for RSUs awarded on or after January 1, 2006 will be recognized using the single option method. Stock compensation expense for all stock-based grants and awards is recognized over the service or vesting period of each grant or award.

Statement 123(R) requires forfeitures to be estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates in order to derive the Company's best estimate of awards ultimately expected to vest. Forfeitures represent only the unvested portion of a surrendered option and are typically estimated based on historical experience. Based on an analysis of the Company's historical data, the Company applied forfeiture rates of 9.90%, 9.57%, 10.14% and 11.85% to stock options outstanding in determining its Statement 123(R) stock compensation expense for the quarters ended December 31, 2006, September 30, 2006, June 30, 2006 and March 31, 2006, respectively, which it believes is a reasonable forfeiture estimate for these periods. In the Company's pro forma information required under SFAS No. 123 for the periods prior to 2006, the Company accounted for forfeitures as they occurred.

The Company has a Stock Incentive Plan (the "Plan") under which stock options to purchase common stock of the Company may be granted or RSUs may be awarded to employees and non-employees of the Company. Stock options may be granted under the Plan as incentive stock options ("ISO") or as non-qualified stock options ("non-ISO"). The Company also has stock options outstanding from a previous

equity compensation plan as well as free-standing options not under any plan. In addition, the Company has an Employee Stock Purchase Plan ("ESPP") under which employees are eligible to purchase common stock of the Company on a quarterly basis at 85% of the lesser of the market price of the common stock on the first day of the quarter or the last day of the quarter. All stock issued under options exercised, RSUs awarded or ESPP shares purchased are new shares of the Company's common stock. Option grants generally carry contractual terms of up to ten years. RSU awards generally carry contractual terms of up to five years.

The following table summarizes the changes in stock options outstanding under the Company's stock-based compensation plans:

	Stock Options Outstanding Under the Plans				Weighted Average Option Exercise Price Per Share
	ISO	Non-ISO	Non-Plan Options	Total	
Balance at December 31, 2003	1,295,296	888,500	2,725,000	4,908,796	$3.32
Options granted	25,000	50,000	916,000	991,000	4.30
Options exercised	(45,750)	(120,000)	(167,944)	(333,694)	1.38
Options canceled	(34,596)	(358,000)	(487,500)	(880,096)	5.43
Balance at December 31, 2004	1,239,950	460,500	2,985,556	4,686,006	3.27
Options granted	750	15,000	293,000	308,750	3.49
Options exercised	(52,125)	(2,500)	(49,404)	(104,029)	1.82
Options canceled	(181,875)	(123,000)	(331,250)	(636,125)	4.78
Balance at December 31, 2005	1,006,700	350,000	2,897,902	4,254,602	3.09
Options granted	-	5,000	-	5,000	2.95
Options exercised	(7,625)	-	(40,202)	(47,827)	0.92
Options canceled	(81,450)	(56,000)	(325,000)	(462,450)	4.57
Balance at December 31, 2006	917,625	299,000	2,532,700	3,749,325	$2.94

The following table summarizes the ranges of exercise prices for outstanding and exercisable stock options as of December 31, 2006:

	Options Outstanding at December 31, 2006:			Options Exercisable at December 31, 2006:	
Range of Exercise Prices	Number Outstanding	Weighted Average Remaining Contractual Life	Weighted Average Exercise Price	Number Exercisable	Weighted Average Exercise Price
$0.37 – $ 0.52	766,000	5.89 years	$0.44	716,000	$0.44
0.79 – 2.35	642,000	6.26 years	1.44	459,500	1.46
2.51 – 3.36	695,200	6.30 years	2.97	608,200	3.02
3.46 – 3.80	911,750	7.01 years	3.70	904,250	3.70
3.99 – 8.50	679,375	5.65 years	5.51	679,375	5.51
9.88 – 12.44	55,000	3.51 years	10.57	55,000	10.57
$0.37 – $12.44	3,749,325	6.23 years	$2.94	3,422,325	$3.07

As of December 31, 2006, the aggregate intrinsic value of options outstanding and exercisable was $1.7 million and $1.5 million, respectively. The aggregate intrinsic value of options exercised for the year ended December 31, 2006 was approximately $0.1 million. The aggregate intrinsic value represents the total pre-tax intrinsic value (the difference between the closing price of the Company's common stock on December 31, 2006 of $2.07 per share and the exercise price of each-in-the-money option) that would have been received by the option holders had all option holders exercised their options on December 31, 2006.

The following table summarizes restricted stock awards activity:

	Number of Shares	Weighted Average Award Date Fair Value	Weighted Average Remaining Contractual Term
Unvested at December 31, 2004	–	–	–
Awards granted	351,000	$3.37	–
Awards forfeited	(3,000)	3.66	–
Unvested at December 31, 2005	348,000	3.25	1.53 years
Awards granted	**967,272**	**2.73**	
Awards vested	**(87,000)**	**3.38**	
Awards forfeited	**(58,750)**	**3.11**	
Unvested at December 31, 2006	**1,169,522**	**$2.83**	**2.03 years**

As of December 31, 2006, the aggregate intrinsic value of RSU awards outstanding was $2.4 million. The aggregate intrinsic value represents the total pre-tax value of common stock RSU holders would have received (based on the closing price of the Company's common stock on December 31, 2006 of $2.07 per share) had all RSUs vested and common stock been issued to the RSU holders on December 31, 2006.

The Company had a total of 5,956,325 shares of common stock reserved for stock option grants and RSU awards at December 31, 2006, of which 1,037,478 shares were available for future grants or awards under the Plan.

For the year ended December 31, 2006, the Company recognized $0.5 million of stock compensation expense in connection with the adoption of Statement 123(R). Total stock compensation expense recognized during the year ended December 31, 2006 totaled $1.1 million (or $0.03 per share), of which $0.5 million was included in general and administrative expenses and $0.6 million was included in sales and marketing expenses.

Because the Company maintained a full valuation allowance on its U.S. deferred tax assets, the Company did not recognize any net tax benefit related to its stock-based compensation expense for the year ended December 31, 2006.

As of December 31, 2006, the Company had $0.1 million of total unrecognized compensation expense, net of estimated forfeitures, related to stock options that will be recognized over a weighted average period of less than one year, and $1.9 million of total unrecognized compensation expense, net of estimated forfeitures, related to RSU awards that will be recognized over a weighted average period of approximately two years.

Prior to the adoption of Statement 123(R), the Company accounted for its stock-based employee compensation plans under the recognition and measurement principles of APB Opinion No. 25 and related interpretations. The exercise price of the Company's employee stock options generally equaled the market price of the underlying stock on the date of grant for all options granted, and thus, under APB Opinion No. 25, no compensation expense was recognized. Pro forma information regarding net loss and net loss per share is required by SFAS No. 123 and has been determined as if the Company had accounted for its employee stock options under the fair value method of SFAS No. 123.

The following table illustrates the pro forma effect on net loss and net loss per share if the Company had applied the fair value recognition provisions of SFAS No. 123 to stock-based employee compensation. Since stock-based compensation expense for the year ended December 31, 2006, was calculated and recorded under the provisions of Statement 123(R), no pro forma disclosure for 2006 is presented.

(in thousands, except per share data)	2005	2004
Net loss, as reported	($14,394)	($16,643)
Less: Total stock-based employee compensation expense determined under fair value based method for all awards	(5,301)	(2,350)
Pro forma net loss	($19,695)	($18,993)
Net loss per share:		
As reported		
Basic and diluted	($0.46)	($0.58)
Pro forma		
Basic and diluted	($0.64)	($0.66)

In December 2005, the Company authorized the acceleration of vesting of all otherwise unvested stock options held by its employees with an exercise price of $3.00 or greater granted under its Stock Incentive Plan or as a free- standing option not under any plan. Options to purchase 1,294,232 shares of common stock (affecting 86 employees) were subject to this acceleration. The decision to accelerate vesting of these options was made primarily to minimize future compensation expense that the Company would otherwise recognize in its consolidated statement of operations with respect to these options pursuant to Statement 123(R). The aggregate future expense eliminated as a result of the acceleration of the vesting of these options was approximately $3.3 million.

10. Leases

The Company has operating leases for its facilities. These leases expire at various dates through November 2011. Future minimum lease payments under these agreements are as follows (in thousands):

Year ending December 31:	
2007	$812
2008	776
2009	726
2010	354
2011	43
	$2,711

Rent expense was $0.7 million, $0.6 million, and $0.4 million for 2006, 2005 and 2004, respectively.

11. Income Taxes

At December 31, 2006, the Company had net operating loss carryforwards of approximately $136 million ($47 million related to 3F) and credits for increasing research and development costs of approximately $0.9 million ($0.7 million related to 3F), which are available to offset future taxable income or reduce taxes payable through 2026. These loss carryforwards will begin expiring in 2007. The credits continue to expire in 2007 through 2025.

Included as part of the Company's net operating loss carryforwards are approximately $3.4 million in tax deductions that resulted from the exercise of stock options. When these loss carryforwards are realized, the corresponding change in valuation allowance will be recorded as additional paid-in capital.

The Company's ability to utilize its net operating loss carryforwards to offset future taxable income are subject to certain limitations under Section 382 of the Internal Revenue Code due to changes in the equity ownership of the Company.

Components of deferred tax assets and liabilities are as follows (in thousands):

	December 31	
	2006	2005
Current deferred tax assets	$ 493	$ 250
Long-term deferred tax assets (liabilities):		
Net operating loss carryforwards	50,153	29,886
Foreign net operating loss carryforwards	711	832
Research and development credits	897	285
Alternative minimum tax credits	31	31
Inventory reserves	64	80
Depreciation	854	847
Compensation accruals and reserves	495	210
Deferred financing costs	108	–
Convertible senior notes derivatives	(1,305)	(779)
Technology license amortization	(1,311)	(456)
Other intangible assets and goodwill	(2,606)	–
Other	409	259
Net long-term deferred tax assets	48,500	31,195
Net deferred tax assets before valuation allowance	48,993	31,445
Less valuation allowance	(48,993)	(31,445)
Net deferred tax assets	$ –	$ –

The valuation allowance above includes 3F net deferred tax assets (primarily net operating loss carryforwards) of $15.5 million. If realized, 3F tax assets will be recorded first as reductions to goodwill and intangible assets ($12.1 million at December 31, 2006), and then as income tax benefits ($3.4 million at December 31, 2006).

Reconciliation of the statutory federal income tax rate to the Company's effective tax rate is as follows:

	2006	2005	2004
Tax at statutory rate	(34.0)%	(34.0)%	(34.0)%
State income taxes	(4.0)	(4.0)	(4.0)
Acquired in-process research and development	17.7	-	-
Impact of changes in valuation allowance	20.3	38.0	38.0
	-	-	-

12. Commitments

In 2002 the Company amended long-term supply and technology transfer agreements with CarboMedics, a wholly owned subsidiary of Sorin, a European company based in Italy. The amendment to the supply agreement suspended component set purchases until January 2007. This postponed component purchases totaling approximately $21.5 million for the years ended December 31, 2002 to 2006. The 2002 through 2006 purchase obligations were to resume, beginning in 2007. In January 2007, CarboMedics served a complaint on the Company, alleging breach of contract with respect to the long-term supply agreement, discussed more fully in Note 18. The Company believes that the complaint filed by CarboMedics is without merit, that CarboMedics has repudiated and breached the supply agreement, and that the Company has affirmative claims against CarboMedics.

13. Distributor Termination

In December 2006, the Company and an international distributor in Europe executed agreements providing for the termination of the distributor, the conversion of the distributor to a commissioned sales representative effective January 1, 2007 and the buy-back by the Company of the distributor's remaining inventory stock. The value of the inventory to be bought back totaled approximately $0.7 million at December 31, 2006. In addition, termination payments will be made by the Company to the distributor totaling approximately $0.7 million, payable in two equal installments in the fourth quarter of 2007 and the first quarter of 2008. The 2008 installment carries interest at 6%.

14. Benefit Plan

The Company has a defined contribution salary deferral plan covering substantially all employees under Section 401(k) of the Internal Revenue Code. Under the plan, the Company contributes an amount equal to 25% of the first 12% of each employee's contribution. The Company recognized expense for contributions to the plan of $0.2 million, $0.2 million and $0.1million for 2006, 2005 and 2004, respectively.

15. Significant Customers and Concentration of Credit Risk

Since its inception, the Company has operated in a single industry segment: developing, manufacturing, and marketing medical devices. As a result, the information disclosed herein materially represents all of the financial information related to the Company's principal operating segment. The Company derived the following percentages of its net sales from the following geographic regions:

	2006	2005	2004
United States	**39%**	38%	33%
Europe	**28%**	28	28
Asia Pacific	**25%**	26	33
Other Markets	**8%**	8	6

Sales to one customer, Century Medical-Japan, represented 11%, 13% and 16% of the Company's net sales for the years ended December 31, 2006, 2005, and 2004, respectively.

The Company had balances owing from three customers that aggregated 19% of its accounts receivable balances at December 31, 2006. The Company had balances owing from five customers that represented 37% of its accounts receivable balances at December 31, 2005 and balances owing from two customers that represented 24% of its accounts receivable at December 31, 2004.

16. Quarterly Financial Data (Unaudited)

Quarterly data for 2006 and 2005 was as follows (in thousands, except loss per share):

	Quarter			
	First	**Second**	**Third**	**Fourth**
Year ended December 31, 2006				
Net sales	**$9,730**	**$10,857**	**$9,122**	**$10,740**
Gross profit	**4,732**	**5,447**	**5,228**	**5,474**
Net loss	**(1,575)**	**(2,764)**	**(17,255)**	**(6,080)**
Net basic and diluted loss per share	**$ (0.05)**	**$ (0.09)**	**$ (0.55)**	**$ (0.15)**
Year ended December 31, 2005				
Net sales	$ 7,063	$ 9,307	$ 8,333	$ 9,933
Gross profit	2,762	3,833	2,619	2,594
Net loss	(3,959)	(3,133)	(4,078)	(3,224)
Net basic and diluted loss per share	$ (0.13)	$ (0.10)	$ (0.13)	$ (0.10)

The Company recorded a $0.7 million charge related to the termination of a European distributor in the fourth quarter of 2006, as disclosed in Note 13 above.

In connection with the acquisition of 3F disclosed in Note 2 above, the Company acquired $14.4 million of in-process research and development, recorded as a non-recurring charge to operations in the third quarter of 2006.

The conversion feature liability related to of the Company's Senior Convertible Notes, disclosed in Note 7 above, was adjusted to fair value at each quarter end throughout 2006 and 2005, resulting in a $1.2 million change in valuation credit to other income in the first quarter of 2006 and a $2.1 million credit to other income in the fourth quarter of 2005.

The Company charged $1.8 million of production variances and ramp-up costs related to its pyrolytic carbon manufacturing activities to cost of goods sold in the fourth quarter of 2005.

17. Recently Issued Accounting Pronouncements

In December 2004, the FASB issued SFAS No. 123 (Revised 2004), *Share-Based Payment*, Statement 123(R), which revises SFAS No. 123, *Accounting for Stock-Based Compensation,* supersedes APB Opinion No. 25, *Accounting for Stock Issued to Employees*, and amends SFAS No. 95, *Statement of Cash Flows*. Statement 123(R) was adopted by the Company on January 1, 2006. The impact of adopting this Standard is discussed above in Note 9, "Common Stock and Stock Options."

In May 2005, the FASB issued SFAS No. 154, *Accounting Changes and Error Corrections* ("Statement 154"), which replaces APB Opinion No. 20, *Accounting Changes*, and SFAS No. 3, *Reporting Accounting Changes in Interim Financial Statements*. Statement 154 changes the requirements for the accounting for and reporting of a change in accounting principle, and applies to all voluntary changes in accounting principles, as well as changes required by an accounting pronouncement in the unusual instance it does not include specific transition provisions. Specifically, this Statement requires retrospective application to prior periods' financial statements, unless it is impracticable to determine the period-specific effects or the cumulative effect of the change. When it is impracticable to determine the effects of the change, the new accounting principle must be applied to the balances of assets and liabilities as of the beginning of the earliest period for which retrospective application is practicable and a corresponding adjustment must be made to the opening balance of retained earnings for that period rather than being reported in an income statement. When it is impracticable to determine the cumulative effect of the change, the new principle must be applied as if it were adopted prospectively from the earliest date practicable. The adoption of SFAS No. 154 did not have an impact on the Company's consolidated financial statements.

In July 2006, the FASB issued FASB interpretation ("FIN") No. 48, *Accounting for Uncertainty in Income Taxes-an interpretation of SFAS No. 109.* FIN 48 prescribes a comprehensive model for recognizing, measuring, presenting and disclosing in the financial statements tax positions taken or expected to be taken on a tax return, including the decision whether to file or not to file in a particular jurisdiction. FIN 48 is effective for fiscal years beginning after December 15, 2006. If there are changes in net assets as a result of the application of FIN 48, these will be accounted for as an adjustment to retained earnings. The Company does not expect the adoption of FIN 48 to have a material impact on its consolidated financial position and results of operations.

In September 2006, the FASB issued SFAS No. 157, *Fair Value Measurements*. SFAS No. 157 establishes a common definition for fair value to be applied to U.S. GAAP guidance requiring use of fair value, establishes a framework for measuring fair value, and expands disclosure about such fair value measurements. SFAS No. 157 is effective for fiscal years beginning after November 15, 2007. The Company is currently assessing the impact of SFAS No. 157 on its consolidated financial position and results of operations.

In September 2006, the SEC staff issued Staff Accounting Bulletin ("SAB") 108, *Considering the Effects of Prior Year Misstatements when Quantifying Misstatements in Current Year Financial Statements*. SAB 108 requires that public companies utilize a "dual-approach" to assessing the quantitative effects of financial misstatements. This dual-approach includes both an income statement focused assessment and a

balance sheet focused assessment. The guidance in SAB 108 must be applied to annual financial statements for fiscal years ending after November 15, 2006. The adoption of SAB 108 did not have an impact on the Company's consolidated financial statements.

18. Litigation

Abbey Litigation

On January 23, 2006, following execution of the Merger Agreement between the Company and 3F, 3F was informed of a summons and complaint dated January 19, 2006, which was filed in the U.S. District Court in the Southern District of New York by Arthur N. Abbey ("Abbey") against 3F Partners Limited Partnership II (a major stockholder of 3F, "3F Partners II"), Theodore C. Skokos (the then chairman of the board and a stockholder of 3F), 3F Management II, LLC (the general partner of 3F Partners II), and 3F (collectively, the "Defendants") (the "Abbey I Litigation"). The summons and complaint alleges that the Defendants committed fraud under federal securities laws, common law fraud and negligent misrepresentation in connection with the purchase by Abbey of certain securities of 3F Partners II. In particular, Abbey claims that the Defendants induced Abbey to invest $4 million in 3F Partners II, which, in turn, invested $6 million in certain preferred stock of 3F, by allegedly causing Abbey to believe, among other things, that such investment would be short-term. Pursuant to the complaint, Abbey is seeking rescission of his purchase of his limited partnership interest in 3F Partners II and return of the amount paid therefore (together with pre-and post-judgment interest), compensatory damages for the alleged lost principal of his investment (together with interest thereon and additional general, consequential and incidental damages), general damages for all alleged injuries resulting from the alleged fraud in an amount to be determined at trial and such other legal and equitable relief as the court may deem just and proper. Abbey did not purchase any securities directly from 3F and is not a stockholder of 3F. On March 23, 2006, 3F filed a motion to dismiss the complaint. Under the Private Securities Litigation Reform Act, no discovery will be permitted until the judge rules upon the motion to dismiss. On May 15, 2006, 3F filed and served a reply memorandum of law in further support of its motion to dismiss Abbey's complaint with prejudice.

On or about June 14, 2006, Abbey commenced a second civil action in the Court of Chancery in the State of Delaware by serving 3F with a complaint naming both 3F and Mr. Skokos as defendants (the "Abbey II Litigation"). The complaint alleges, among other things, fraud and breach of fiduciary duties in connection with the purchase by Abbey of his partnership interest in 3F Partners II. The Delaware action seeks: (1) a declaration that (a) for purposes of the merger, Abbey was a record stockholder of 3F and was thus entitled to withhold his consent to the merger and seek appraisal rights after the merger was consummated and (b) the irrevocable stockholder consent submitted by 3F Partners II to approve the merger be voided as unenforceable; and (2) damages based upon allegations that 3F aided and abetted Mr. Skokos in breaching Mr. Skokos's fiduciary duties of loyalty and faith to Abbey. On July 17, 2006, 3F filed a motion to dismiss the complaint in the Abbey II Litigation, or, alternatively, to stay the action pending adjudication of the Abbey I Litigation. On October 10, 2006, the Delaware Chancery Court entered an order staying the Delaware action pending the outcome of the Abbey I litigation.

3F has been notified by its director and officer insurance carrier that such carrier will defend and cover all defense costs as to 3F and Mr. Skokos in the Abbey I Litigation and Abbey II Litigation, subject to policy terms and full reservation of rights. In addition, under the merger agreement, 3F and the 3F stockholder representative have agreed that the Abbey I Litigation and Abbey II Litigation are matters for which express indemnification is provided. As a result, the escrow shares and milestone shares, if any, may be used by ATS to satisfy, in part, ATS's set-off rights and indemnification claims for damages and losses incurred by 3F or ATS, and their directors, officers and affiliates, that are not otherwise covered by applicable insurance arising from the Abbey I Litigation and Abbey II Litigation. See Note 2 of "Notes to Consolidated Financial Statements" in this Report for a description of the escrow and milestone shares. The Company believes that the Abbey I Litigation and Abbey II Litigation will not result in a material impact on the Company's financial position or operating results.

CarboMedics Litigation

On January 26, 2007, the Company was served with a complaint filed by CarboMedics against ATS in United States District Court in the District of Minnesota on November 22, 2006. The complaint alleges that the Company has breached certain contractual obligations, including an alleged obligation to purchase $22 million of MHV carbon components under a long-term supply agreement with CarboMedics which obligation CarboMedics contends had been scheduled to re-commence in 2007.

The complaint seeks specific enforcement of the supply agreement, revocation of certain intellectual property rights purchased by ATS from CarboMedics, and monetary damages in excess of $75,000. The Company believes that the complaint filed by CarboMedics is without merit, that CarboMedics has repudiated and breached the long-term supply agreement, and that the Company has affirmative claims against CarboMedics. On February 16, 2007, the Company filed its answer and counterclaim to the complaint, including counterclaims for breach of contract, anticipatory repudiation, deceptive trade practice and business disparagement, and a request for monetary damages. On March 14, 2007 the Company also filed a motion for judgment on the pleadings regarding CarboMedics request for specific performance of the supply agreement.

19. Subsequent Events

On January 26, 2007, the Company issued 224,416 shares of its common stock pursuant to the exercise of its option to purchase certain assets of EM Vascular, Inc., ("EM Vascular"), under a May 2005 Option and Asset Purchase Agreement ("Agreement"). The payment in shares was at the option of the Company and was in lieu of a $0.5 million cash payment. The most significant asset acquired as part of this purchase is technology that may potentially allow for a non-invasive, non-pharma therapy for the treatment of such disorders as atherosclerotic plaque and blood hyper-cholesterolemia. Under the terms of the Agreement, the Company will also be obligated to make additional contingent payments to EM Vascular of $1.0 million in the form of ATS common stock upon obtaining FDA approval to market a product that is covered by EM Vascular patents or patent applications ("EM Vascular Products"), of quarterly cash payments equal to 4% of the revenue from the sale of Products for a period of ten years from the date of the first commercial sale of an EM Vascular Product, and of $1.2 million in the form of ATS common stock following the end of the first quarter in which the Company recognizes cumulative revenues of $10 million from the sale of EM Vascular Products in a quarter. These contingent payments are subject to certain rights of set-off for indemnification claims and certain other events.

Also on January 26, 2007, the Company and Regeneration Technologies, Inc. ("RTI-CV") entered into an Amendment to a 2005 Marketing Services Agreement (the "Amendment") effective as of January 1, 2007. Under the terms of the 2005 agreement, RTI-CV appointed the Company as it's exclusive marketing services representative to promote, market and solicit orders for RTI-CV's processed cardiovascular allograft tissue from doctors, hospitals, clinics and patients throughout North America. The Amendment was entered into as a result of RTI-CV's sale of its cardiovascular business to CryoLife, Inc. and discontinuation of its cardiovascular tissue processing operations. Under the terms of the Amendment, the Company will be compensated for soliciting orders for RTI-CV's remaining inventory of processed tissue based on a percentage of the fee paid by customers for the processed tissue, net of transportation charges and discounts. The Company will be entitled to a minimum level of compensation of $175,000 per calendar quarter. The Agreement, as amended, will terminate on December 31, 2007.

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INVESTOR INFORMATION

Independent Auditors
Grant Thornton LLP
Minneapolis, Minnesota

Legal Counsel
Dorsey & Whitney LLP

Patent Counsel
Haugen Law Firm LLP
Oppenheimer Wolff and Donnelly LLP

Transfer Agent and Registrar
Wells Fargo Shareowner Services
161 N. Concord Exchange
South St. Paul, Minnesota 55075-1139

Form 10-K
A copy of the Company's annual report to the Securities and Exchange Commission will be provided without charge to any shareholder upon written request to the Corporate Secretary at the corporate headquarters.

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Chairman of the Board
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Corporate Assurance
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W. Allen Putnam
Vice President of Regulatory,
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Michael R. Kramer
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END

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