

EPIX MEDICAL INC  
Form 10-K  
March 28, 2003

[QuickLinks](#) -- Click here to rapidly navigate through this document

---

---

**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

---

**FORM 10-K**

(Mark One)

**QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE  
SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2002

OR

**TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE  
SECURITIES EXCHANGE ACT OF 1934**

For the transition period from \_\_\_\_\_ to \_\_\_\_\_  
Commission file number: 0-21863

---

**EPIX MEDICAL, INC.**

(Exact name of registrant as specified in its charter)

**Delaware**

(State or other jurisdiction of incorporation or organization)

**04-3030815**

(I.R.S. Employer Identification No.)

**71 Rogers Street, Cambridge, Massachusetts**  
(Address of principal executive offices)

**02142**  
(Zip Code)

Registrant's telephone number, including area code: **(617) 250-6000**

Securities registered pursuant to Section 12(b) of the Exchange Act: **NONE**

Securities registered pursuant to Section 12(g) of the Exchange Act:

**Common Stock, \$.01 Par Value Per Share**

(Title of Class)

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  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.

Indicate by check mark whether the registrant is an accelerated filer (as defined in Rule 12b-2 of the Act). Yes  No

The aggregate market value of the registrant's voting and non-voting common stock held by non-affiliates of the registrant (without admitting that any person whose shares are not included in such calculation is an affiliate) computed by reference to the price at which the common stock

## Edgar Filing: EPIX MEDICAL INC - Form 10-K

was last sold as of the last business day of the registrant's most recently completed second fiscal quarter was \$156,457,829.

As of March 24, 2003, the registrant had 17,120,134 shares of common stock outstanding.

### DOCUMENTS INCORPORATED BY REFERENCE

The following documents (or parts thereof) are incorporated by reference into the following parts of this Form 10-K: Certain information required in Part III of this Annual Report on Form 10-K is incorporated from the Registrant's Proxy Statement for the Annual Meeting of Stockholders.

---

---

---

## PART I

### ITEM 1. BUSINESS

#### Overview

We are a leading developer of targeted contrast agents, designed to improve the diagnostic quality of images produced by magnetic resonance imaging, or MRI. MRI is a technique widely used in the identification of a variety of diseases. It is a minimally-invasive procedure that does not damage body tissue and provides 3-dimensional images that enable physicians to diagnose and manage disease. Our principal product under development, MS-325, is designed to provide visual imaging of the body's arteries and veins, collectively known as the vascular system, through a type of MRI specific to imaging the vascular system known as magnetic resonance angiography, or MRA. We believe that MS-325-enhanced MRA has the potential to improve the diagnosis of multiple diseases of the vascular system, including vascular disease outside the heart, known as peripheral vascular disease, and diseases that affect the coronary arteries and reduce blood flow to the heart. Our initial target indication for MS-325 is for use in magnetic resonance angiographic imaging of peripheral vascular disease. We believe that MS-325 will significantly enhance the quality of MRI and provide physicians with a minimally-invasive and cost-effective method for diagnosing vascular disease. We also believe that MS-325-enhanced MRA has the potential to simplify the diagnosis of vascular disease and to replace X-ray angiography, a highly invasive and expensive catheter-based procedure currently used for the detection of vascular disease.

We have completed enrollment in a Phase III clinical trial program to test the safety and efficacy of MS-325-enhanced MRA. We believe that MRA will be a less invasive method of imaging a patient's vascular anatomy for the evaluation of disease. The first two trials in the Phase III program for MS-325 met their primary endpoints. We plan to announce results of the third and fourth trials in the Phase III program and plan to submit a New Drug Application, or NDA, for MS-325 to the U.S. Food and Drug Administration, or FDA, in 2003.

The use of MRI has grown steadily over the past 10 years due to reduced cost and improved imaging capabilities. MRI provides an effective method for diagnosing a broad range of diseases. MRI manufacturers have improved both the hardware and software used in their systems, reducing the procedure time dramatically and significantly enhancing image resolution. While MRI is currently used extensively to image many organs and tissues in the body, its use in imaging the vascular system has been limited. Currently available MRI contrast agents were designed for general use and have not been approved by the FDA for use in MRA. The use of MRA with currently available contrast agents has been limited as a diagnostic tool for vascular disease by rapid leakage of the contrast agent into tissue outside the vascular system. As a result, the time available to image blood vessels with currently approved contrast agents, none of which is approved by the FDA for this use, is too short to obtain the high resolution images necessary for broad clinical application. In addition, performance of MRA using currently approved contrast agents generally requires specialized equipment and specially trained staff.

Unlike most currently available general use MRI contrast agents, MS-325 is specifically designed to enhance the quality of magnetic resonance images of the arteries and veins and to provide physicians with a superior method for diagnosing vascular disease. MS-325 is a small molecule, which produces an MRI signal because of the presence of gadolinium, a magnetically active element favored by clinicians for enhancing magnetic resonance images. MS-325 is designed with our proprietary technology to bind to albumin, the most common protein in the blood. Using standard MRI techniques, MS-325-enhanced MRA produces a strong magnetic signal, resulting in bright images of the blood against the dark background of surrounding tissue. Because of its attraction to albumin, MS-325 remains at high concentrations in the bloodstream throughout the MRI exam, providing the extended image time and signal strength required to obtain a high resolution image of multiple regions of the vascular system.

Like most currently available general use contrast agents, MS-325 is designed to be safely eliminated from the body through the kidneys over time.

We have entered into strategic alliances with Schering Aktiengesellschaft, or Schering AG, and Mallinckrodt, Inc., subsequently acquired by Tyco International Ltd., and referred to herein as Tyco/Mallinckrodt, for the development, manufacture and commercialization of MS-325 and other vascular contrast agents. We have also formed collaborations with the three leading MRI scanner manufacturers, General Electric Medical Systems, Philips Medical Systems and Siemens Medical Systems to develop advanced imaging techniques and tools designed to facilitate the use of MS-325-enhanced MRA.

Although we are developing a second targeted contrast agent that would enable MRI to illuminate blood clots as described in more detail below, MS-325 is currently our only product candidate in human clinical trials. Our initial commercial product revenues and profits will depend on the results of our Phase III clinical trials, approval of MS-325 by the FDA and other regulatory authorities, the successful manufacturing of the product by our partner Tyco/Mallinckrodt and the successful commercialization of the product by our partner Schering AG.

In our thrombus program, we are developing a second targeted contrast agent that would enable MRI to illuminate blood clots by making them appear as identifiable bright spots on MRI images. Such a product could potentially change the method of diagnosis for many of the conditions associated with the formation of blood clots in the arteries and veins. Finding blood clots is of critical medical significance in the evaluation and diagnosis of patients with stroke, chest pain, heart attack, irregular heartbeat, clots in the lung and clots in the leg. A common form of these conditions is deep vein thrombosis, which is characterized by the presence of blood clots in the deep veins of the pelvis or legs. The most severe consequence of deep vein thrombosis is pulmonary embolism, a potentially life-threatening condition which can occur when a blood clot dislodges from the vessel wall and obstructs the arteries in the lung. The detection of blood clots in the neck, heart and abdomen is also of critical significance to the medical treatment of patients who have had a stroke or stroke-like symptoms. We believe that the illumination of blood clots by a targeted contrast agent used in conjunction with MRI could lead to better medical outcomes due to earlier and more definitive diagnosis of diseases relating to clots. Early diagnosis is especially important for clots in the heart, neck, thigh and pelvis, which can be fatal because of their increased likelihood of migrating to the brain, heart or lungs. We believe that such a contrast agent could eliminate the need for procedures that require the use of large quantities of X-ray contrast dye and expose patients to radiation, and be more accurate than diagnostic tests that use radioactive drugs and ultrasound, which are all currently used to identify blood clots in the veins and arteries.

We have selected a compound, EP-2104R, for further development in preparation for clinical study in our thrombus program. We designed EP-2104R to bind reversibly to fibrin, the dominant protein found exclusively in clots. In preclinical studies, EP-2104R has been shown to enhance the ability of MRI to image clots. We expect to continue to apply resources to the thrombus program in the future and plan to commence human trials in 2004.

We incorporated in Delaware in 1988 and commenced operations in 1992. Our principal executive offices are located at 71 Rogers Street, Cambridge, Massachusetts 02142-1118 and our telephone number is (617) 250-6000. Our Web site is located at <http://www.epixmed.com>. Our annual reports on Form 10-K, quarterly reports on Form 10-Q and current reports on Form 8-K, which have been filed with the Securities and Exchange Commission, are available to you free of charge on our Web site as soon as reasonably practicable after such materials have been electronically filed with, or furnished to, the Commission. We do not intend for the other information contained in our Web site to be considered a part of this Form 10-K.

## Cardiovascular Disease

### Background

The human cardiovascular system consists of the heart and the vasculature, a vast network of arteries and veins that carry blood throughout the body. Cardiovascular disease, a broad class of diseases affecting the heart and vasculature, is the number one cause of death in the United States, with approximately 950,000 fatalities each year. One out of every 2.5 deaths in the United States is attributed to cardiovascular disease and it is estimated that over 60 million Americans suffer from some form of this disease.

Atherosclerosis is one of the most common forms of cardiovascular disease. This condition refers to the accumulation of fatty plaques in the inner lining of blood vessels, resulting in a thickening or hardening of affected vessels. As the disease progresses, the arteries can become weakened or increasingly narrowed, thereby reducing blood flow to vital organs, including the heart and brain. This condition is often characterized by the vascular region in which it is diagnosed. Coronary artery disease, for example, refers to disease in the arteries in the heart,

while peripheral vascular disease refers to disease in the major vessels outside the heart: vessels of the head and neck, the aorta, arteries supplying blood to the kidneys and other organs, and the large vessels of the pelvis, legs, feet and arms. Recent research in cardiovascular disease has begun to highlight the systemic nature of this condition. Because the major risk factors tend to affect all vascular regions, many patients have multiple clinical symptoms of cardiovascular disease. Therefore, patients diagnosed with cardiovascular disease in one vascular region are at high risk of having disease in another vascular region.

Clinicians have also begun to realize the importance of characterizing atherosclerotic plaques once they have been identified. Even in arteries where significant narrowing has not yet occurred, vulnerable plaques may rupture, causing a blood clot to form, which can result in heart attack, stroke and death. We believe that the ability to characterize plaques may allow physicians to identify those regions of cardiovascular disease that present the most immediate threat to patients' health and that MS-325 will aid in the evaluation of the disease.

The consequences of cardiovascular disease can be severe and often include one or more of the following:

*Aortic Aneurysm.* The aorta is the main artery that carries blood from the heart to the rest of the body. Degenerative changes in the arterial wall often result in the enlargement or bulging of the lower part of this vessel, known as abdominal aortic aneurysm. Individuals with this condition are at serious risk that the aneurysm will rupture, causing life-threatening bleeding. There are an estimated 200,000 cases of abdominal aortic aneurysm diagnosed each year in the United States. Because this condition can exist without symptoms for many years, many physicians have begun to consider the merits and cost-effectiveness of routine screening programs for this disease for patients deemed at risk.

*Heart Attack and Chest Pain.* The coronary arteries supply blood to the heart muscle, or myocardium. When these arteries are narrowed or clogged due to atherosclerotic buildup, the result can be chest pain, known as angina pectoris, or heart attack, known as myocardial infarction. This condition, known as coronary heart disease, is estimated to afflict 12.4 million Americans. Coronary heart disease is responsible for approximately 600,000 deaths each year in the United States.

*Hypertension.* Hypertension, or high blood pressure, refers to the constriction of blood vessels, which causes the heart to work harder to supply blood to the body. This condition, which significantly elevates an individual's risk of heart attack or stroke, afflicts approximately fifty million individuals in the United States. Renal hypertension, caused by blockages of the arteries that carry blood to the kidneys, can result in kidney failure and is estimated to account for up to

3

---

ten percent of all cases of hypertension. Early diagnosis can be extremely helpful for patients with hypertension as a result of atherosclerosis in the renal arteries because it can be treated surgically or by other interventional procedures. However, conventional X-ray angiography, the current definitive diagnostic procedure for this condition, carries elevated risk for patients with renal impairment due to the toxicity of the X-ray dye used in that procedure.

*Ischemic Stroke.* Blocked arteries in the head and neck can prevent areas of the brain from receiving the necessary blood supply, potentially leading to ischemic stroke. Individuals with atherosclerosis are at increased risk of suffering such blockages due to atherosclerotic buildup in these arteries or, more commonly, from plaques originating in other areas which have broken off and lodged in these vessels. Approximately 85% of the 700,000 strokes each year in the United States are a result of atherosclerotic disease which leads to an obstruction of a blood vessel supplying blood to the brain.

*Limb Loss.* Atherosclerotic blockages in the arteries of the pelvis and legs can lead to ischemia, which is lack of oxygen, or infarction, which can cause death of tissue in these areas. Complications from atherosclerotic disease in these vessels include pain, limitations in mobility, and amputation of the extremities. Each year approximately 100,000 amputations are performed in the United States primarily due to the complications of cardiovascular disease.

#### **Diagnosing Cardiovascular Disease**

Cardiovascular disease is currently diagnosed using a number of different modalities, including pressure tests, conventional X-ray angiography, computed tomography, ultrasound, intravascular ultrasound, nuclear medicine and MRI. These modalities are often classified as either "screening" or "definitive" according to their role in the diagnostic pathway. Screening procedures are typically used early in the diagnostic evaluation to rule out certain conditions and assist physicians in determining subsequent diagnostic testing. Screening procedures tend to be relatively inexpensive and non-invasive. Physicians rely on definitive diagnostic procedures, however, to provide them with the

information required to make final diagnosis and plan treatment. Because of the importance of this definitive information, physicians are willing to use costlier, more invasive modalities.

### **Screening for Vascular Disease**

A patient with vascular disease may exhibit a wide range of symptoms, including: leg pain, gangrene, hypertension, stroke and transient ischemic attack, which is a brief episode of cerebral ischemia usually characterized by blurred vision, slurred speech, numbness or paralysis. The appropriate screening tests vary according to the particular disease indication. In the work-up of vascular disease of the legs or feet, for example, ultrasound is often performed to confirm the location of disease once it has been detected by non-imaging techniques. In general, traditional screening modalities for peripheral vascular disease most commonly ultrasound and renal nuclear exams tend to have poor image quality and frequently lead to inconclusive exams.

### **Screening for Coronary Artery Disease**

Typically, a patient enters the diagnostic pathway for coronary artery disease after experiencing chest pain or shortness of breath. If the patient cannot be ruled out for this condition after the initial work-up that includes a physical exam, patient history, electrocardiogram and exercise stress test, a cardiologist will often perform a stress echocardiogram and/or a nuclear stress perfusion study.

*Stress Echocardiograms.* Stress Echocardiograms use ultrasound to measure motion of the walls of the heart under physical or pharmacological stress. In most cases, a lack of blood flow to a particular area of the heart will be highlighted by atypical motion of the heart wall. The test is non-invasive and costs between \$200 and \$900. While a normal stress echocardiogram usually

4

---

eliminates the possibility of blockages that significantly decrease blood flow, the test is often inconclusive and provides no information on the anatomy of the coronary arteries. We estimate that over 2.2 million stress echocardiograms were performed in the United States in 2001.

*Nuclear Stress Perfusion Studies.* Nuclear Stress Perfusion Studies measure the flow of blood to cardiac tissue, and can be used either as the critical diagnostic test prior to conventional X-ray angiography or to confirm the impact on blood flow of an intermediate blockage identified through conventional X-ray angiography. Nuclear stress perfusion tests are non-invasive, use small quantities of radiation and cost between \$300 and \$1,400. A patient is injected with a radioactive agent and then a radiation sensitive camera is used to detect uptake of the agent in the heart muscle. A deficiency in blood flow to particular regions of the heart is shown in the resulting images. While the test can identify the effects of coronary artery disease, it provides no information about the anatomy of the coronary arteries and it cannot determine the location of blockages. We estimate that over 5.5 million nuclear stress perfusion studies were conducted in the United States in 2001.

### **Definitive Diagnosis of Atherosclerotic Disease**

#### **X-ray Angiography**

Conventional X-ray angiography is currently considered to be the definitive diagnostic exam for imaging arterial anatomy in patients with suspected peripheral vascular disease or coronary artery disease. Invented in the 1920's, an X-ray angiogram involves the insertion of a catheter through a puncture of the femoral artery in the patient's groin. Once the catheter is placed in the artery, X-ray dye is injected into the bloodstream and an image is acquired of the relevant vascular region. Conventional X-ray angiography does not always provide sufficient information for clinical decision-making, particularly in the coronary arteries: while X-ray angiography identifies the location of arterial blockages, in many cases it cannot conclusively determine the impact of these blockages on blood flow. Therefore, for many blockages, additional studies must be performed to enable the physician to make a definitive diagnosis. Based on available procedure data, we estimate that over 4.5 million X-ray angiograms were performed in the United States in 2001, of which approximately 2.7 million were coronary angiograms. X-ray angiography has a number of undesirable characteristics for a diagnostic tool, including:

Invasiveness of procedure requires extended recovery time;

## Edgar Filing: EPIX MEDICAL INC - Form 10-K

Significant risk of serious complications including limb loss, kidney failure, stroke and death;

Exposure of patients to potentially harmful ionizing radiation that can cause tissue damage;

Because X-ray dye is toxic in the kidneys, the large volumes of dye necessary to perform an X-ray angiogram may cause severe reactions;

Separate exams necessary to view both arteries and veins;

Separate exams necessary for each vascular region;

Provides only 2-dimensional images;

Relatively expensive (\$1,500-\$3,000 for peripheral angiograms, \$2,000-\$6,000 for coronary angiograms);

Cost and invasiveness limit post-procedure patient follow-up; and

Inability to distinguish atherosclerotic plaques.

5

---

### Computed Tomography

Another modality currently being investigated as a potential diagnostic tool for imaging blood vessels is computed tomography, or CT, which is primarily used to image solid organs. Although it does not require an arterial puncture, CT requires the use of large quantities of toxic X-ray dye and exposes patients to radiation, which limits the number of vascular regions it can image in an exam. CT has shown recent success in imaging the coronary arteries as a result of its speed, but its use remains limited. A specialized form of CT, electron beam CT, is approved in the United States for angiographic imaging but has had limited impact on clinical practice due to the low number of electron beam CT scanners installed and its use of toxic X-ray dye and radiation. CT is also being investigated for use in detecting calcium deposits in the coronary arteries, a surrogate often advocated as predictive of atherosclerotic disease in that region. While extremely sensitive, this technique lacks specificity for atherosclerosis and frequently results in the false diagnosis of disease.

### MRI

MRI has been established as the imaging technology of choice for a broad range of applications, including brain tumors, knee injuries and disorders of the head, neck and spine. MRI is performed by placing a portion of the patient's body in a magnetic field and applying safe, low-energy radio waves. The different organs and tissues in the body respond uniquely to the electromagnetic field within the MRI scanner, and these responses can be captured and converted into high-resolution 3-dimensional images. A contrast agent is often injected into a vein in the patient's arm prior to an MRI exam to amplify the signal from the desired anatomical structure. It is estimated that contrast agents are used in 30% of all MRI exams performed in the United States. MR scanners are characterized by the strength of the magnetic field they generate. Typical MRI scanners those most commonly found in hospitals generate a relatively strong magnetic field and therefore require significant infrastructure for installation. Low-field scanners, whose magnetic fields are less than one-third the strength of traditional scanners, are often found in out-patient settings due to their relatively low cost and infrastructure requirements. The trade-off for low-field MR scanners is that a decrease in the strength of the magnetic field results in a decrease in the MR signal detected, which typically results in reduced image quality.

While the use of MRA for angiography is expanding among experts, it has not made a significant impact on the diagnosis of cardiovascular disease to date, with the exception of arterial studies of the head and neck. Non-contrast MRA exams of the vascular system, which image blood flow, are often ineffective when used in patients with cardiovascular disease, because of the minimal blood flow or turbulent blood flow associated with this condition. Even for the imaging of carotid arteries in the neck, where flow-based MRA has had some clinical impact, the lack of direct anatomic data limits the ability of MRA to provide a quantitative measurement of stenosis required for accurate diagnosis. MRA exams using existing general use contrast agents are limited by the rapid diffusion of the agents out of the vascular system, which reduces the

time during which an image can be acquired. Consequently, many experts believe MRI contrast agents that remain in the bloodstream for extended periods of time will be necessary to attain widespread use of MRI to image the vascular system.

### **Plaque Characterization**

Recent research suggests that plaques associated with regions of vessel wall inflammation may be at increased risk of rupture and are consequently more likely to present immediate risk to patients. The one modality currently used to characterize the content and/or shape of arterial plaques is known as intravascular ultrasound, or IVUS. An IVUS exam requires the insertion of a relatively large catheter (i.e., larger than an X-ray angiographic catheter) equipped with an ultrasound transducer through an arterial puncture in the femoral artery. These procedures, which are more invasive than conventional

X-ray angiograms, are not commonly used in the United States due to the elevated risk of complications.

### **Summary**

In summary, the current process for diagnosing cardiovascular disease is a complicated pathway that typically involves subjecting patients to risky and invasive procedures before a definitive diagnosis can be rendered. We therefore believe that there is significant clinical need for a highly accurate, minimally-invasive exam that provides more comprehensive diagnostic information about the cardiovascular system.

### **Our Approach To Cardiovascular MRI**

Our lead product under development, MS-325, is an injectable intravascular contrast agent intended to enhance the quality of MR images and provide physicians with a superior method for diagnosing cardiovascular disease. Unlike most currently available general use MRI contrast agents, which are non-specific and rapidly leak out of the arteries and veins, MS-325 binds to albumin, the most common protein in the blood. Because of its affinity for albumin, MS-325 remains at high concentrations in the bloodstream throughout the MRI exam and, therefore, provides the image acquisition time and signal strength needed to obtain a high resolution image of the cardiovascular system. These images are intended to provide sufficient anatomical detail for definitive diagnosis and surgical planning.

We believe that MS-325-enhanced MRA may facilitate several clinically valuable diagnostic procedures, as described below.

#### **MS-325-Enhanced Angiography**

We believe that MS-325-enhanced MRA will be used to diagnose cardiovascular disease and has the potential to replace a significant portion of the estimated 4.5 million conventional X-ray angiograms performed each year in the United States. In particular, we believe MS-325-enhanced MRA has the following advantages over conventional X-ray angiography:

*Safety.* X-ray angiography is an invasive, catheter-based procedure that exposes patients to significant risk of serious complications due to femoral puncture and the insertion of a catheter. MS-325-enhanced MRA, on the other hand, is a minimally-invasive exam requiring only an intravenous injection of MS-325.

*No Ionizing Radiation.* MRA using MS-325 involves only safe, low-energy radio waves rather than potentially harmful radiation associated with conventional X-ray procedures.

*Arterial and Venous Information in a Single Exam.* Because MS-325 circulates in the blood for an extended period, it gives MRI the potential to capture image data of both arteries and veins in a single exam. While imaging arteries is necessary for identifying and locating disease, imaging of the veins plays a crucial role in identifying venous structures suitable for use in bypass grafts and is useful for planning catheter-based interventional procedures. X-ray technology requires separate exams to image arteries and veins.

*Whole-Body Imaging.* Whereas X-ray angiography captures data over a limited vascular region, we expect MS-325-enhanced MRA to provide clinicians with the ability to capture images of the entire vascular system in a single exam. We believe that a whole-body MR angiogram with a single injection of MS-325 will be particularly well suited for the

diagnosis of cardiovascular disease, given the systemic nature of this condition.

7

---

*3-Dimensional Images.* MS-325-enhanced MRA captures 3-dimensional data that can be manipulated by physicians for optimal visualization of the vessels being examined. These 3-dimensional data sets will allow physicians to rotate, zoom in and "fly through" images in order to identify cardiovascular disease.

*Cost-Effectiveness.* Because it will be performed outside the surgical setting, MS-325-enhanced MRA is likely to cost significantly less than X-ray angiography. We estimate that a whole body MRA exam with MS-325 will cost between \$500 and \$1,000, roughly one-third the cost of an X-ray angiogram of a single vascular region.

*Patient Monitoring.* After a therapeutic intervention for cardiovascular disease such as angioplasty or bypass graft, optimal patient management often includes follow-up exams, to look for recurring blockages, or restenosis, as well as proper functioning of grafts. Due to the risk, discomfort and expense associated with X-ray angiography, follow-up imaging currently is limited. As a result, undiagnosed restenosis and other complications can lead to increased patient management costs and poorer outcomes. We estimate that there are currently over two million patients who have undergone a coronary angioplasty procedure and over two million patients who have undergone a coronary bypass graft who are potential candidates for a periodic reexamination. In addition, we believe that MS-325-enhanced MRA may have potential utility to monitor the success of therapeutic treatments designed to affect the proliferation, or angiogenesis, of micro-vessels designed to help cure coronary artery disease.

*Plaque Characterization.* MS-325-enhanced MRA research has demonstrated potential utility for visualizing the walls of arteries as well as the interior, or lumen, of these vessels. This unique feature may allow precise determination of plaque shape. We believe that MS-325-enhanced MRA may further enable clinicians to identify regions of inflammation in vessel walls due to the elevated concentration of albumin in these areas. We therefore believe that MS-325-enhanced MRA may potentially help clinicians identify those plaques whose shape and proximity to vessel wall inflammation make them more likely to pose health risks to patients.

### **Low-Field MR Angiography**

We believe that the extended blood residence time of MS-325 will prove particularly beneficial in facilitating the use of low-field MRI scanners for diagnosing cardiovascular disease. These scanners, which account for approximately 37% of the installed base of MRI scanners, pose several potential advantages over traditional scanners: they are relatively inexpensive, they use open configurations for improved patient comfort, they can be portable, they are compatible with nearby electronic equipment, and they can enable MRI for patients with pacemakers. However, low-field scanners do not currently provide the resolution required for clinically useful vascular studies. Because of its high signal at low magnetic field strengths, MS-325 may enable low-field MRI scanners to perform high-resolution imaging of the vasculature. This would potentially allow relatively inexpensive MRI exams to be performed in outpatient settings, such as physician offices and freestanding imaging centers.

### **Integrated Cardiac Exam**

We believe that MS-325, coupled with anticipated advances in software and hardware for MRI equipment, will enable physicians to use MRI to perform a minimally-invasive, integrated cardiac exam for the diagnosis of coronary artery disease. Such a procedure would be designed to provide information on coronary artery anatomy, including location of arterial blockages, as well as cardiac perfusion and cardiac function data, in one sitting early in the diagnostic work-up. Because the procedure is intended to provide physicians with more comprehensive diagnostic information at an earlier stage of the diagnostic work-up, physicians would be able to make a more informed diagnosis, and therefore arrange for appropriate patient treatment, sooner than would otherwise be possible, thereby potentially achieving better patient outcomes at a lower cost. Of the estimated 6.75 million patients in the United States who enter the diagnostic pathway for coronary artery disease each year, we believe that over half would be candidates for such an integrated cardiac exam.

8

---

### **Other Cardiovascular Applications**



## Edgar Filing: EPIX MEDICAL INC - Form 10-K

We are currently investigating the potential utility of MS-325-enhanced MRI for a number of additional applications related to cardiovascular disease, including myocardial perfusion imaging which measures blood flow to cardiac tissue.

### **Beyond Cardiovascular**

#### **MRI Additional Applications**

We believe MS-325-enhanced MRA will find significant clinical utility beyond the diagnosis of cardiovascular disease. Because of its potential for high-resolution imaging of the vasculature, for example, MS-325 has potential use in diagnosing several conditions involving damaged or abnormal microvessels such as cancer. In addition, as it is targeted to albumin, MS-325-enhanced MRA may play a role in diagnosing conditions which result in regions of atypical albumin concentration such as inflammation due to infection or due to rheumatoid diseases such as arthritis or lupus.

### **Technology Platform**

Our product candidates are small molecule chelates, which are soluble metal-organic complexes, containing a magnetically active metal element, gadolinium, which elicits a strong MRI signal. We have designed our product candidate molecules based on their chemical, pharmacological and biophysical attributes and profile. Our compounds must be safe, easily eliminated from the body, and display a useful distribution pattern in the body. At the same time, these agents must elicit the strongest possible effect on the local magnetic properties of tissue. Our scientists specialize in discovering and patenting useful ways to combine these two disparate areas of investigation. Specifically, we believe our ability to design targeted MRI contrast agents is a result of our expertise in three areas:

#### **Targeting**

We develop metal complexes that are engineered to bind to particular proteins and receptor molecules in the body. This binding causes increased concentration and retention of the contrast agent in the specific tissues and fluids that contain the targeted receptor molecules. Our objectives in designing such agents are to choose the best target the protein or cell type that most precisely characterizes the relevant disease state and to identify a chemical structure that binds to that target without binding to other molecules in the body. The chemical structure of MS-325, for example, is designed to bind selectively to albumin, the most common blood protein, which keeps the agent localized within the bloodstream. In designing our MR agent for use in our thrombus program, we have used combinatorial chemistry to select a family of highly specific peptides that bind to fibrin, the dominant protein inside clots, without binding to fibrinogen, a similar, but far less clot-specific protein in blood. We have considerable expertise in peptide synthesis and in labeling the peptides with strongly enhancing clusters of gadolinium.

#### **MRI Signal Generation**

A key part of our biophysical technology platform is receptor-induced magnetic enhancement, or RIME. Developed by Dr. Randall Lauffer, our founder and Chief Scientific Officer, while at Massachusetts General Hospital, or MGH, RIME is now exclusively licensed by us under patents held by MGH. The binding of a RIME agent to its receptor reduces the rate at which the agent rotates in solution. This reduced rotation rate leads to a complex magnetic effect whereby the agent's signal-enhancing characteristics are substantially increased, resulting in a stronger signal during MR scans. For MS-325, RIME effects result in an up to 10-fold increase in signal relative to non-specific gadolinium agents. We also have technology for the synthesis of discrete, compact clusters of gadolinium chelates

9

---

to increase the signal from a single targeting molecule. This involves the use of both chemistry and biophysics to maintain the RIME effect.

#### **Image Acquisition and 3-D Visualization**

We have also developed significant expertise in the translation of raw MRI data into clinically useful 3-dimensional images. MRI is the most flexible of the major medical imaging technologies. The hardware and software of most MRI scanners allow an enormous range of data acquisition methods, and, increasingly, methods for displaying and interpreting the resulting medical images. Through our research and development, extensive academic collaborations and industrial partnerships, we have built a deep understanding of the relationships between the contrast agent biophysics, scanner engineering, and medical practice. Our expertise allows us not only to create the best images for our agents in development, but is critical for optimizing the clinical usefulness of future MRI agents.

### **Our Product and Development Programs**

MS-325

## Background

Our lead product candidate, MS-325, is a targeted intravascular contrast agent intended for use with MRI. MS-325 is a small molecule chelate which produces an MRI signal because it contains gadolinium, a highly magnetically active element favored by clinicians for enhancing MR images. This molecule is designed with our proprietary technology to bind to albumin, the most common blood protein. In MS-325 images using standard MRI techniques, the blood gives off a strong magnetic signal and appears bright against the dark background of surrounding tissue. Because of its affinity for albumin, MS-325 remains at high concentrations in the bloodstream throughout the MRI exam and therefore provides the image acquisition time and signal strength needed to obtain a high resolution image of the cardiovascular system. Like most currently available general use contrast agents, MS-325 is designed to be safely eliminated through the kidneys over time.

## Lead Indication MRA of Peripheral Vascular Disease

We have completed enrollment in a Phase III clinical trial program to test the safety and efficacy of MS-325-enhanced MRA for the evaluation of peripheral vascular disease. In September 2001 we completed enrollment in the first of two Phase III trials designed to determine the efficacy of MS-325-enhanced MRA for the detection of aortoiliac occlusive disease, a common form of vascular disease in the lower abdomen and pelvic regions. We reported preliminary results of this trial in March 2002 at the American College of Cardiology conference. The trial met its primary clinical endpoint, which was an improvement in accuracy of MS-325-enhanced MRA versus that of non-contrast MRA, with each of three blinded radiologist readers showing improvement in accuracy with a p-value less than 0.001. In our Phase III studies, as in many other such studies, the statistical significance of clinical results is determined by a widely used statistical method that establishes the p-value of clinical results. A p-value less than 0.001 means that the likelihood of the improvement in accuracy occurring by chance is less than one in one thousand. The trial demonstrated that MS-325-enhanced MRA compared favorably to conventional X-ray angiography, the current reference standard, achieving 88% accuracy in identifying clinically significant arterial narrowing or stenoses caused by atherosclerotic disease. In determining the reference standard in the trial, X-ray readers disagreed 10% of the time.

In October 2002 we completed enrollment in the second of the two Phase III trials for the detection of aortoiliac occlusive disease. We reported preliminary results of this trial in March 2003 at the European Congress of Radiology. The trial met its primary clinical endpoint which was an improvement in the accuracy of MS-325-enhanced MRA versus that of non-contrast MRA with each of

10

---

three blinded radiologist readers showing improvement in accuracy with a p-value less than 0.001. This trial demonstrated that MS-325-enhanced MRA compared favorably to conventional X-ray angiography, the current reference standard, achieving 84% accuracy in identifying clinically significant stenoses caused by atherosclerotic disease. In determining the reference standard in the trial the X-ray readers disagreed 11% of the time. The first and second Phase III trials indicated that MS-325 was safe and well tolerated by patients in the studies. The overall rate of adverse events in the two trials was comparable to the adverse event rate in the placebo arm of a previously reported trial, with adverse events on MS-325 including tingling, itching and nausea.

In September 2001, we expanded our Phase III clinical trial program for MS-325 in order to broaden our lead indication to peripheral vascular disease from the previous indication of aortoiliac occlusive disease. This expansion resulted from discussions with the FDA during which we agreed to add other vascular beds broadly representative of atherosclerotic disease in the vascular system to our then current Phase III clinical trial program. In late 2001, we filed two additional protocols with the FDA, one to determine the efficacy of MS-325-enhanced MRA for the detection of vascular disease in renal arteries supplying blood to the kidneys, and another to determine the efficacy of MS-325-enhanced MRA for the detection of vascular disease in pedal arteries supplying blood to the feet. We expect that a broad vascular disease indication will include the entire vasculature excluding the heart.

In June 2001, we completed a Phase II clinical trial. This Phase II trial compared the diagnostic accuracy of five different doses of MS-325-enhanced MRA with that of X-ray angiography in the aortoiliac vascular bed. The results of this trial strongly supported the 0.03 mmol/kg dose selected for use in the Phase III aortoiliac occlusive disease studies and favorably compared MS-325-enhanced MRA to conventional X-ray angiography achieving 87% accuracy versus conventional X-ray angiography, in identifying clinically significant stenoses caused by atherosclerotic disease. The results indicated that MS-325 was safe and well-tolerated by patients in this study.

In June 1998, we completed a Phase II clinical trial to test the safety and preliminary efficacy of MS-325 for the evaluation of vascular disease in the carotid, iliac and femoral arteries. In this Phase II study, MS-325-enhanced MRA compared favorably to conventional X-ray angiography, achieving 82% accuracy versus conventional X-ray angiography in identifying clinically significant stenoses caused by atherosclerotic disease and was safe. The results indicated that MS-325 was safe and well-tolerated by patients in this study. In addition, we have

completed two Phase I clinical trials to date; the first in February 1997, and the second in February 1998.

### **Coronary Artery Disease**

We have conducted a Phase II feasibility trial in 106 patients to test the safety and preliminary efficacy of MS-325-enhanced MRA for the evaluation of coronary artery disease. As with the completed first two Phase III aortoiliac trials, our coronary trial compares MS-325-enhanced MRA to X-ray angiography, the current reference standard, to determine the location and degree of plaque blockages. Clinical use of MRA for imaging the coronary arteries is particularly difficult at present due to the problem of cardiac motion that results from both the beating of the heart and breathing. We have joined with several leading MRI manufacturers, academic centers and other research organizations to develop hardware and software solutions to the problem of cardiac motion. We received promising early images from this study indicating that MS-325 may be useful in assessing coronary artery blockages. We plan to conduct further studies of the use of MS-325 in coronary imaging following submission of our NDA.

11

---

### **Potential Additional Applications**

We are currently evaluating results from clinical and pre-clinical studies performed in the following areas to determine the potential utility of MS-325 for additional applications:

#### **Breast Cancer**

In March 2000, we completed enrollment for a 45-patient multi-center Phase II feasibility trial designed to test the safety and preliminary efficacy of MS-325-enhanced MRI for detecting malignant breast lesions in women with breast abnormalities. In this trial, we evaluated MS-325-enhanced MRI in twenty patients using low field MRI scanners and twenty-five patients using high field MRI systems. Data from the sub-population of the twenty patients using low field MRI scanners showed marked and persistent contrast enhancement in both benign and malignant lesions, demonstrating that MS-325 provides a strong signal enhancement of breast lesions and enables high quality imaging at field strengths associated with open MR and lower field magnetic resonance systems that we believe will be appropriate for breast cancer clinics. We believe that MS-325 has potential utility as part of a non-invasive imaging procedure that would assist physicians in identifying breast cancer in patients who have had mammograms that do not yield conclusive information or who are at high risk of developing breast cancer. Commencement of additional clinical studies for the breast cancer application is contingent upon the future outlook and development of the breast imaging market.

#### **Female Sexual Arousal Dysfunction**

In March 2001, we completed enrollment in a Phase II feasibility trial in 25 patients, which we conducted in collaboration with Pfizer, Inc. to explore the efficacy of MS-325-enhanced MRI in the diagnosis of female sexual arousal dysfunction. Preliminary results from this trial indicate that MS-325-enhanced MRI is able to measure changes in pelvic blood volume and organ volume during sexual arousal. We believe that this technique may be useful in assessing how different diseases affect sexual response in women as well as examining the effects of potential treatments in restoring impaired sexual response. Commencement of additional clinical studies for this application is contingent upon future outlook and development of the market.

#### **Myocardial Perfusion**

We are currently evaluating results from pre-clinical studies to assess the utility of MS-325-enhanced MRA to detect myocardial perfusion.

### **Thrombus Program**

#### **Background**

Thromboembolic disease refers to a class of relatively common disorders involving the formation of blood clots, or thrombi, in the veins and arteries. Common forms of these disorders include heart attacks and strokes resulting from clots which cause a sudden blockage in the blood flow to the heart or brain. Another common condition caused by clot formation in the pelvis or legs is deep vein thrombosis or DVT. This disease afflicts approximately two million Americans each year. The most severe consequences of DVT tend to occur when a clot dislodges from the vessel wall to form an embolus, which can then pass to and obstruct arteries in the lung. This condition, known as pulmonary embolism, or PE, affects an estimated 600,000 patients each year in the United States. In addition, blood clots in the carotid artery can lead to stroke, while clots in the coronary arteries can result in heart attack. We estimate that blood clots are responsible for over 400,000 deaths each year in the United States.

The most common method currently used for detecting blood clots in the chamber of the heart is ultrasound imaging of the heart or echocardiography. Clots in the heart are important to detect because they can dislodge and travel to the brain, causing stroke. Clots in the heart chambers are detected using an invasive technique known as transesophageal echocardiography, or TEE, which involves sedation of the patient and the insertion of a probe down the patient's throat to the level of the heart. There are approximately one million TEE exams performed annually in the United States. Clots in the coronary arteries often lead to heart attacks. There is currently no diagnostic imaging method for the specific detection of clots in the coronary arteries. There are over one million heart attacks annually in the United States caused by blood flow restrictions in the coronary arteries, many of which involve blood clots.

The current method for diagnosing DVT involves a series of venous ultrasound exams sometimes followed by X-ray venography. The ultrasound procedure, while non-invasive, is effective primarily for diagnosing DVT in the thighs. It is ineffective for a significant portion of the patient population who do not have symptoms and those who have clots forming below the knee, in the pelvis and in the vena cava, the primary vein returning blood to the heart. It is estimated that over 2.7 million ultrasound procedures are performed each year in the United States to detect DVT. X-ray venography, the current clinical standard for diagnosis, requires the injection of X-ray contrast dye into the foot and carries a significant risk of complications, including the formation of new clots.

The diagnosis of PE presents an even greater challenge for clinicians with recent research suggesting that PE diagnosis is missed more than 50% of the time. The primary diagnostic technique for PE, a nuclear scan, is indeterminate in a large number of patients. Approximately one million such exams were performed in the United States in 2001. In the event of an indeterminate exam, the clinician must either infer the diagnosis from the presence or absence of DVT or must perform a pulmonary angiogram. Pulmonary angiography is a highly invasive catheter-based procedure which subjects the patient to significant risk of morbidity and mortality. Clots in the carotid and coronary arteries are diagnosed in much the same way as atherosclerotic blockages, with X-ray angiography providing definitive diagnosis in most patients.

### **Thrombus Development Program**

We are developing a second targeted contrast agent that would enable MRI to illuminate blood clots. This agent could potentially change the diagnostic work-up for many of the conditions associated with thromboembolic disease, including patients with clots in the heart and brain as well as for diagnosing clots in patients with DVT or PE. We believe that the use of this new approach could lead to better medical outcomes due to earlier and more definitive diagnosis. Early diagnosis is especially important for clots in the heart, brain, neck, thigh and pelvis. Because of their increased likelihood of migrating to the lungs once inside the pulmonary vasculature, these clots can be fatal. We believe that an MRI contrast agent for the detection of clots could eliminate the need for the CT, ultrasound and nuclear medicine studies currently used to identify thrombotic disease, and could potentially provide a non-invasive definitive diagnosis for the presence of blood clots.

We have selected a compound, EP-2104R, for further development in preparation for clinical study. In pre-clinical studies, EP-2104R has been shown to enhance the ability of MRI to image clots. We designed EP-2104R based on a family of highly specific peptides that bind reversibly to fibrin, the dominant protein inside clots. The selected peptide is linked to a proprietary gadolinium group, which for the first time, will provide a sufficiently strong signal to allow imaging of clots during MRI exams. We believe that our proprietary technology platform could enable MRI to differentiate old and new clot formation, potentially identifying those clots that pose the most risk to patients. We expect to continue to devote significant resources to this program in the future and plan to commence human trials in 2004.

### **Our Business Strategy**

Our objective is to become a worldwide leader in MRI contrast agents by pursuing a strategy based on commercializing MS-325 and developing new applications for our proprietary technology platform. Our key business objectives are to:

*Establish the safety and clinical utility of MS-325 for our lead cardiovascular imaging indication of peripheral vascular disease. As previously discussed in the section "Our Product and Development Programs Lead Indications MRA of Peripheral Vascular Disease," we are currently conducting a Phase III clinical trial program to test the safety and efficacy of MS-325-enhanced MRA for the evaluation of peripheral vascular disease.*

## Edgar Filing: EPIX MEDICAL INC - Form 10-K

*Establish the clinical utility of MS-325 in other cardiovascular imaging indications.* We plan to study the safety and efficacy of MS-325-enhanced MRA for the evaluation of coronary artery disease. In a Phase II trial in 106 patients, we compared MS-325-enhanced MRA to conventional X-ray angiography, the current reference standard. In addition, we are currently evaluating the results of preclinical trials for such applications as myocardial perfusion imaging.

*Develop an MRI imaging agent for thromboembolic disease imaging.* In our thrombus program we are developing EP-2104R as an MRI contrast agent for imaging clots. We plan to file an IND application with the FDA in 2004 which, if approved, will allow us to begin human safety trials.

*Maximize the value of strategic alliances.* We have established collaborations with Schering AG, Tyco/Mallinckrodt, General Electric Medical Systems, Philips Medical Systems, Siemens Medical Systems, and Pfizer. We entered into these alliances, and will seek to enter into future strategic alliances with pharmaceutical, imaging agent and MRI equipment industry leaders, in order to obtain access to resources and infrastructure to leverage our strengths. See "Strategic Alliances and Collaborations."

*Establish the clinical utility of MS-325 beyond cardiovascular imaging.* We are committed to leveraging the unique diagnostic properties of MS-325 across as many clinical applications as possible. We are therefore seeking to establish the clinical utility of MS-325-enhanced MRI in diagnosing conditions other than cardiovascular disease. In March 2000, we completed enrollment for a Phase II feasibility study designed to evaluate the safety and efficacy of MS-325-enhanced MRI in identifying malignant breast lesions in women with breast abnormalities. In March 2001, we completed enrollment in a Phase II feasibility trial, in conjunction with Pfizer Inc., to assess the potential utility of MS-325-enhanced MR in diagnosing female sexual arousal dysfunction by monitoring pelvic blood volume in women.

### Strategic Alliances and Collaborations

Our business strategy includes entering into alliances with leaders in the pharmaceutical, diagnostic imaging and MRI equipment industries to facilitate the development, manufacture, marketing, sale and distribution of our products. To date, we have formed strategic alliances and collaborations with Schering AG, Tyco/Mallinckrodt, General Electric Medical Systems, Philips Medical Systems, Siemens Medical Systems, and Pfizer.

#### Co-Development, Sales & Marketing

##### Schering AG

In June 2000, we entered into a strategic collaboration agreement pursuant to which we granted Schering AG an exclusive license to co-develop and market MS-325 worldwide, exclusive of Japan. In December 2000, we amended this strategic collaboration agreement to grant to Schering AG the exclusive rights to develop and market MS-325 in Japan. Generally, each party to the agreement will

14

---

share equally in MS-325 costs and profits. Under the agreement, we will assume responsibility for completing clinical trials and filing for FDA approval in the United States. Schering AG will lead clinical and regulatory activities for the product outside the United States. In addition, we granted Schering AG an exclusive option to develop and market an unspecified cardiovascular MRI blood pool agent from our product pipeline. In connection with this strategic collaboration and the amendment to our strategic collaboration agreement with Tyco/Mallinckrodt, as further described below, Schering AG paid us an up-front fee of \$10.0 million, which we then paid to Tyco/Mallinckrodt. Under the agreement, Schering AG also paid us \$20.0 million in exchange for shares of our common stock through its affiliate, Schering Berlin Venture Corporation, or Schering BV. We may receive up to an additional \$20.0 million in milestone payments under the strategic collaboration agreement, of which \$2.5 million will be earned upon NDA filing and up to \$2.5 million will be earned upon product approval. Under the terms of the December 2000 amendment, Schering AG paid us an up-front fee of \$3.0 million and may be required to pay us an additional \$7.0 million upon our achievement of certain milestones.

Also, under the strategic collaboration agreement with Schering AG, we have options to acquire certain participation rights with respect to two of Schering AG's MRI imaging products currently in clinical trials, SHU 555C and Gadomer-17. We are entitled to exercise these options on a region-by-region basis upon the payment of certain fees. We are entitled to exercise the SHU 555C option for a period of twelve months after the date the option becomes exercisable. Once we exercise the SHU 555C option, we will enter into a definitive agreement with Schering AG with respect to SHU 555C, pursuant to which Schering AG will be responsible for the conduct of all development, marketing and sales

activities in connection with SHU 555C. We are entitled to exercise the Gadomer-17 option for a period of 120 days following Schering AG's performance of certain milestones. Once we exercise the Gadomer-17 option, we will enter into a definitive agreement with Schering AG with respect to Gadomer-17, pursuant to which we will share development costs incurred from the date of the option exercise, as well as profits, equally with Schering AG. Under the terms of the strategic collaboration agreement, either party may terminate the agreement upon thirty days notice if there is a material breach of the contract or if either party fails to meet certain milestones. In addition, Schering AG may terminate the agreement at any time on a region-by-region basis or in its entirety, upon six months written notice to us; and we may terminate the agreement with respect to development of MS-325 in the European Union, or EU, at any time after June 9, 2001 upon ninety days written notice to Schering AG, if Schering AG has failed to meet its obligations in connection with the regulatory approval of MS-325 in the EU.

15

---

On May 8, 2000, we granted to Schering AG a worldwide, royalty-bearing license to patents covering Schering AG's development project, Eovist injection, an MRI contrast agent for imaging the liver, currently in Phase III clinical trials. Also on May 8, 2000, Schering AG granted us a non-exclusive, royalty-bearing license to certain of its Japanese patents. We agreed to withdraw our invalidation claim of Schering AG's Japanese patent 1,932,626 in the Japanese Patent Office pursuant to this license agreement. See "Patents and Proprietary Rights." Schering AG had been an opposing party in our European patent case prior to the licensing agreement. On May 9, 2000, the Opposition Division of the European Patent Office maintained our European patent in a slightly amended form. The patent is owned by the Massachusetts General Hospital and is exclusively licensed to us. The remaining opposing parties initially elected to appeal the May 9, 2000 decision. However, in September 2001, we settled this patent dispute with the opposing parties by entering into a non-exclusive royalty bearing license agreement with Bracco. See "Patents and Proprietary Rights" for further discussion of this settlement.

#### **Tyco/Mallinckrodt**

In June 2000, in connection with the exclusive license that we granted to Schering AG, we amended our strategic collaboration with Tyco/Mallinckrodt to grant Tyco/Mallinckrodt a non-exclusive, worldwide license to manufacture MS-325 for clinical development and commercial use in accordance with a manufacturing agreement entered into in June 2000 between Tyco/Mallinckrodt and Schering AG, and to enable us to enter into the strategic collaboration agreement with Schering AG described above. In connection with this amendment, we paid Tyco/Mallinckrodt an up-front fee of \$10.0 million and are obligated to pay up to an additional \$5.0 million in milestone payments, of which \$2.5 million will be paid upon NDA filing and \$2.5 million will be paid upon product approval. We will also pay Tyco/Mallinckrodt a share of our MS-325 operating profit margins in the US and a royalty on MS-325 gross profits outside the US, except in Japan where no payments are due Tyco/Mallinckrodt.

In October 1999, we entered into a Non-Negotiable Promissory Note and Security Agreement, or the Loan, with Tyco/Mallinckrodt, our strategic partner, under which we were eligible to borrow our share of MS-325 development costs, on a quarterly basis, up to a total of \$9.5 million. The loan was secured by a first priority security interest in all of our intellectual property. In June 2000, pursuant to the amended collaboration agreement with Tyco/Mallinckrodt and the new strategic collaboration with Schering AG, Schering AG assumed the development cost sharing obligation for MS-325 from Tyco/Mallinckrodt as of January 1, 2000. As a result, we amended the terms of the Loan to allow funding for our portion of development costs through December 31, 1999. The balance due under the Loan as of December 31, 2000 and 2001 was \$3,004,607. The Loan was repaid in full when it matured on October 1, 2002.

#### **Daiichi**

In March 1996, we entered into a development and license agreement with Daiichi pursuant to which we granted Daiichi an exclusive license to develop and commercialize MS-325 in Japan. Under this arrangement, Daiichi assumed primary responsibility for clinical development, regulatory approval, marketing and distribution of MS-325 in Japan. We retained the right and obligation to manufacture MS-325 for development activities and commercial sale under the agreement. In December 2000, we reacquired the rights to develop and commercialize MS-325 in Japan from Daiichi. Under the terms of this reacquisition agreement with Daiichi, we agreed to pay Daiichi a total amount of \$5.2 million. In January 2001, we paid Daiichi \$2.8 million in up-front fees and we will pay an additional \$2.4 million upon the earlier of (a) regulatory approval of MS-325 in either the U.S. or Japan or (b) December 31, 2003. Daiichi will also receive a royalty from us based on net sales of MS-325 in Japan. Simultaneously with our reacquisition from Daiichi of the MS-325 development and marketing rights in Japan, we assigned these rights to Schering AG as described above.

16

---

#### **MRI Equipment Manufacturers**

To date, we have formed collaborations with the three major MRI scanner manufacturers, General Electric Medical Systems, Philips Medical Systems and Siemens Medical Systems, to develop advanced imaging techniques designed to facilitate the use of MS-325-enhanced

## Edgar Filing: EPIX MEDICAL INC - Form 10-K

MRA. We believe it is extremely important to collaborate with equipment manufacturers to develop MRI techniques capable of taking full advantage of the unique properties of MS-325 to diagnose cardiovascular disease.

### **General Electric Medical Systems**

In January 1998, we announced the formation of a collaboration with General Electric Medical Systems to accelerate the development of cardiovascular MRI. In particular, the collaboration focuses on reducing the effects of cardiac motion on MR images, providing user-friendly computer tools as a means of visualizing arteries and veins in 3-dimensional space and optimizing MRI, for intravascular MRI contrast agents, including MS-325. Under the terms of this non-exclusive agreement, research is performed at several centers in addition to our facilities, including General Electric's corporate research facility in Schenectady, NY, General Electric Medical Research in Milwaukee, WI, and several academic centers.

### **Philips Medical Systems**

We agreed in November 1998 to collaborate with Philips Medical Systems in advancing the development of contrast-based cardiovascular MRI technologies. Under the terms of this non-exclusive collaboration agreement, we and Philips Medical Systems will combine our resources to optimize imaging technology and improve 3-dimensional visualization of arteries and veins in patients undergoing MR angiography. Research and development is being carried out at several international Philips research centers, as well as at our facilities.

### **Siemens Medical Systems**

In September 1999, we announced a non-exclusive collaboration with Siemens Medical Systems to optimize MR imaging technology and improve visualization of arteries and veins in patients undergoing MR angiography. The collaboration will also focus on expanding the use of MRI in diagnosing cardiovascular disease and providing user-friendly tools for easy visualization of the cardiovascular system in three-dimensional space. Research and development is being carried out at our facilities and at Siemens' Iselin, NJ facilities.

### **Potential New Applications**

#### **Pfizer**

In September 1998, we entered into an exclusive agreement with Pfizer to explore the potential utility of MS-325-enhanced MRA in the diagnosis of female sexual arousal dysfunction. As part of this collaboration, we and Pfizer undertook a Phase II feasibility trial to explore the efficacy of MS-325-enhanced MRA in the detection and monitoring of female sexual arousal dysfunction. We completed enrollment in the trial in March 2001. Under the terms of this collaboration, Pfizer has full responsibility for funding the trial. Pfizer currently markets Viagra® for erectile dysfunction in men.

### **Competition**

The healthcare industry is characterized by extensive research efforts and rapid technological change and there are many companies that are working to develop products similar to ours. There are currently no FDA-approved targeted vascular contrast agents for use with MRI. However, there are a number of general use MRI agents approved for marketing in the United States and in certain foreign

markets that, if approved for MR angiography, are likely to compete with MS-325. Such products include Magnevist® and Gadovist® by Schering AG, Dotarem® by Guerbet, S.A., Omniscan® by Amersham plc or Amersham, ProHance and MultiHance® by Bracco and OptiMARK by Tyco/Mallinckrodt. We are aware of six agents under clinical development: Schering AG's Gadovist, Gadomer-17 and SHU555C, Guerbet's P792, or Vistarem, Bracco's B-22956/1 and Advanced Magnetics' Code 7228 that have been or are being evaluated for use in MRA. We are aware of no MRI contrast agent other than our prototype being developed for use in imaging blood clots. We cannot assure you that our competitors will not succeed in the future in developing products that are more effective than any that we are developing. We believe that our ability to compete within the MRI contrast agent market depends on a number of factors including the success and timeliness with which we complete FDA trials, the breadth of applications, if any, for which our products receive approval, and the effectiveness, cost, safety and ease of use of our products in comparison to the products of our competitors. Our success will also depend on physician acceptance of MRI as a primary imaging modality for certain cardiovascular and other applications.

We have many competitors, including pharmaceutical, biotechnology and chemical companies. A number of competitors, including two of our strategic partners, are actively developing and marketing product candidates that, if commercialized, would compete with our product candidates. Many of these competitors have substantially greater capital and other resources than we do and may represent significant competition for us. Such companies may succeed in developing technologies and products that are more effective or less costly than any of those that we may develop. Such companies may be more successful than us in developing, manufacturing and marketing products. Furthermore, there are several well-established medical imaging modalities that currently compete, and will continue to compete, with MRI, including X-ray angiography, CT, nuclear medicine and ultrasound. Other companies are actively developing the capabilities of the competing modalities to enhance their effectiveness in cardiovascular system imaging. For example, we are aware of at least one radiopharmaceutical agent, Schering AG's AcuTect®, which has been approved for imaging acute venous thrombosis. Other nuclear medicine agents, including Draxis Health's FibrImage®, are in clinical testing for DVT and other clot imaging applications. In addition, several ultrasound contrast agents, including Dupont's Definity, Amersham's Optison and Alliance Pharmaceutical's Imagent are approved in the US and may be used for myocardial perfusion imaging. Several other ultrasound contrast agents are undergoing clinical testing for myocardial perfusion imaging including Amersham's Sonazoid, Point Biomedical's PB-127 and Acusphere's AI-700. We cannot guarantee that we will be able to compete successfully in the future or that developments by others will not render MS-325 or our future product candidates obsolete or non-competitive or that our collaborators or customers will not choose to use competing technologies or products.

### Patents and Proprietary Rights

We consider the protection of our proprietary technologies to be material to our business prospects. We pursue a comprehensive patent program in the United States and in other countries where we believe that significant market opportunities exist.

We own or have exclusively licensed patents and patent applications on the critical aspects of our core technology as well as many specific applications of this technology. Our patents and applications covering RIME technology consist of the following:

Two U.S. patents exclusively licensed from MGH as well as their cognate patents and applications in foreign countries.

Two U.S. patents owned by us as well as their cognate patents and applications in foreign countries.

18

---

Thirteen utility applications in prosecution and five provisional utility applications on twelve different subject matters as well as their cognate patents and applications in foreign countries.

Our two licensed U.S. patents broadly cover RIME technology, albumin binding with metal chelates, and liver targeting metal chelates. We have been issued a patent in Europe similar to those United States patents, and have received notice of allowance for a similar patent application in Japan. These two United States patents were involved in an interference proceeding with an application owned by Tyco/Mallinckrodt, but the interference was terminated in our favor. Our Japanese patent application has been opposed. The sole issue in these proceedings is whether the Japanese Patent Office should have granted and/or allowed patents to us.

The legal proceedings between Bracco, Schering AG and others against us and MGH involving national patents derived from European Patent 222,886 (the European patent referred to above) have been terminated. A Settlement and Release Agreement as to litigation between the parties and a License Agreement from us to Bracco for European Patent 222,886 and its worldwide counterparts was executed on September 25, 2001. We received various payments, including royalties on a quarterly basis pursuant to the license with Bracco, which is described in Item 7, "Management's Discussion and Analysis and Results of Operations." Previously, on May 8, 2000, we granted to Schering AG a worldwide royalty-bearing license to our patents covering Schering AG's development project, Eovist®, an MRI contrast agent for imaging the liver, currently in Phase III clinical trials. Also on May 8, 2000, Schering AG granted us a non-exclusive royalty-bearing license to its Japanese patents, 1,932,626, 1,968,413 and its Japanese Application, WO99/16474. We have agreed to withdraw our invalidation claim of Schering AG's Japanese patent, 1,932,626 in the Japanese Patent Office pursuant to this license agreement. As a result of the Settlement and License Agreements with Bracco and Schering AG, there are currently no legal actions involving this patent family.

We have received an additional United States patent covering novel metal chelates. We have also received a patent in the United States covering the process by which MS-325 is manufactured (U.S. Patent Number 5,919,967; granted July 6, 1999; expires April 11, 2017). Finally, we have patent applications pending in the United States, Japan and Europe covering various aspects of our RIME technology.



## Edgar Filing: EPIX MEDICAL INC - Form 10-K

Our patent protection for MS-325 currently extends to 2006 in the United States and Europe. If the currently pending patent applications issue, this protection will be extended until 2015. Protection for the manufacturing process in the United States is already extended until 2017, and will be extended until 2017 in Europe and Japan if the currently pending patent applications issue.

In addition, from 1999 through 2001 we filed five new patent applications for additional products and processes involving compounds, compositions, and methods for imaging. In 2002, we filed five patent applications and five provisional patent applications. We have filed four patent applications relating to EP-2104R and its methods of use. If the currently pending patent applications issue, patent protection for EP-2104R will be extended until 2022.

An issued patent grants to the owner the right to exclude others from practicing inventions claimed therein. In the United States, a patent filed before June 8, 1995 is enforceable for 17 years from the date of issuance or 20 years from the deemed date of filing the underlying patent applications, whichever is longer. Patents based on applications filed on or after June 8, 1995 expire 20 years from the deemed date of filing. The General Agreement on Tariffs and Trade provides that patents whose applications were filed on or after June 8, 1995 are effective for 20 years from filing. This rule is generally regarded as unfavorable to pharmaceutical companies, where the time period between patent filing and commercialization of the patented product may be extended many years because of the lengthy development cycle and regulatory process.

19

---

The patent positions of pharmaceutical and biopharmaceutical firms involve complex legal and factual questions. There can be no assurance that our issued patents, or any patents that may be issued in the future, will effectively protect our technology or provide a competitive advantage. There can be no assurance that any of our patents or patent applications will not be challenged, invalidated or circumvented in the future.

Our commercial success will also depend on our ability to operate without infringing upon the patents of others in the United States and abroad. If any third-party patents are upheld as valid and enforceable in any judicial or administrative proceeding, we could be prevented from practicing the subject matter claimed in such patents, or would be required to obtain licenses from the patent owners of each such patent, or to redesign our products or processes, to avoid infringement. There can be no assurance that such licenses would be available or, if available, would be available on terms acceptable to us or that we would be successful in any attempt to redesign our products or processes to avoid infringement. Accordingly, an adverse determination in a judicial or administrative proceeding or failure to obtain necessary licenses could prevent us from manufacturing and selling our products, which would have a material adverse effect on our business, financial condition and results of operations.

There may be pending or issued patents, held by parties not affiliated with us, relating to technologies used by us in the development or use of certain of our product candidates. There can be no assurance that our current or future activities will not be challenged, that additional patents will not be issued containing claims materially constraining our proposed activities, that we will not be required to obtain licenses from third parties, or that we will not become involved in costly, time-consuming litigation regarding patents in the field of contrast agents, including actions brought to challenge or invalidate our own patent rights.

Many of our competitors are continuing to actively pursue patent protection for activities and discoveries similar to ours. There can be no assurance that these competitors, many of which have substantially greater resources than us and have made substantial investments in competing technologies, will not in the future seek to assert that our products or chemical processes infringe their existing patents and/or will not seek new patents that claim to cover aspects of our technology. Furthermore, patent applications in the United States and in foreign countries are maintained in secrecy for a specified period after filing. Publication of discoveries in the scientific or patent literature tends to lag behind actual discoveries and the filing of related patent applications. In addition, patents issued and patent applications filed relating to biopharmaceuticals are numerous. Therefore, there can be no assurance that we are aware of all competitive patents, either pending or issued, that relate to products or processes used or proposed to be used by us.

We have entered into a license agreement with MGH pursuant to which MGH has granted us an exclusive worldwide license to the patents and patent applications which relate to our only product candidate, MS-325. The MGH license imposed certain due diligence obligations with respect to the development of products covered by the license, all of which have been fulfilled to date. The MGH license requires us to pay royalties on our net sales of MS-325 until 2006. We must also pay MGH a percentage of all royalties received from our sublicensees until 2006. Accordingly, we will be required to make payments to MGH on profits generated under the Schering collaboration, if any. Our failure to comply with these requirements could result in the conversion of the license from being exclusive to non-exclusive in nature or termination of the license agreement itself. Any such event would have a material adverse effect on our business, financial condition and results of operations.

We entered into a collaboration agreement in 1997 with Dyax, Inc. for research relating to our thrombus program. Under terms of this agreement we obtained rights to thrombus inventions using Dyax's peptide technology in return for royalty rights upon commercialization of

products arising from the thrombus program.

20

---

The pharmaceutical and biotechnology industries have been characterized by extensive litigation regarding patents and other intellectual property rights. Litigation may be necessary to enforce any patents issued to us and/or determine the scope and validity of others' proprietary rights. We may have to participate in interference proceedings declared by the United States Patent and Trademark Office or by foreign agencies to determine the priority of inventions. Any involvement in litigation surrounding these issues could result in extensive costs to us as well as be a significant distraction for management. Such costs could have a material adverse effect on our business, financial condition and results of operations.

We also rely upon trade secrets, technical know-how, and continuing technological innovation to develop and maintain our competitive position. We typically require our employees, consultants, and advisors to execute confidentiality and assignment of invention agreements in connection with their employment, consulting or advisory relationships with us. These agreements require disclosure and assignment to us of ideas, developments, discoveries and inventions made by employees, consultants and advisors. There can be no assurance, however, that these agreements will not be breached or that we will have adequate remedies for any breach. Furthermore, no assurance can be given that competitors will not independently develop substantially equivalent proprietary information and techniques or otherwise gain access to our proprietary technology, or that we can meaningfully protect our rights in unpatented proprietary technology. We intend to vigorously protect and defend our intellectual property. Costly and time-consuming litigation brought by us may be necessary to enforce our issued patents, to protect our trade secrets or know-how owned by us, or to determine the enforceability, scope, and validity of the proprietary rights of others.

### **Manufacturing**

We do not have, nor do we currently have plans to develop, full-scale manufacturing capability for MS-325. We intend to rely on Tyco/Mallinckrodt as the primary manufacturer of MS-325 for human clinical trials in the near future and for initial commercial use. We are working with Schering and with Tyco/Mallinckrodt to identify an alternative manufacturer for MS-325 that would be able to manufacture MS-325 following commercial launch of the product. In the event that Tyco/Mallinckrodt fails to fulfill its manufacturing responsibilities satisfactorily, Schering AG has the right to purchase MS-325 from a third party or to manufacture the compound itself. However, either course of action could materially delay the manufacture, commercialization and development of MS-325, and the cost to produce MS-325 could increase significantly. Schering AG may not be able to find an alternative manufacturer, or Schering AG may not be able to manufacture MS-325 in a timely manner. If we experience a delay in manufacturing, it could result in a delay in the approval or commercialization of MS-325 and have a material adverse effect on our business, financial condition and results of operations.

### **Government Regulation**

The manufacture and commercial distribution of our product candidates are subject to extensive governmental regulation in the United States and other countries. Pharmaceuticals, including contrast-imaging agents for use with MRI, are regulated in the United States by the FDA under the Food, Drug and Cosmetic Act, or FD&C Act, and require FDA approval prior to commercial distribution. Pursuant to the FD&C Act, pharmaceutical manufacturers and distributors must be registered with the FDA and are subject to ongoing FDA regulation, including periodic FDA inspection of their facilities and review of their operating procedures. Noncompliance with applicable requirements can result in failure to receive approval, withdrawal of approval, total or partial suspension of production, fines, injunctions, civil penalties, recalls or seizure of products and criminal prosecution, each of which would have a material adverse effect on our business, financial conditions and results of operations.

21

---

In order to undertake clinical trials and market pharmaceutical products for diagnostic or therapeutic use in humans, the procedures and safety standards established by the FDA and comparable agencies in foreign countries must be followed. In the United States, a company seeking approval to market a new pharmaceutical must obtain FDA approval of a new drug application, or NDA. Before an NDA may be filed, however, a certain procedure is typically followed. This includes: (i) performance of preclinical laboratory and animal studies; (ii) submission to the FDA of an application for an IND, which must become effective before human clinical trials may commence; (iii) completion of adequate and well-controlled human clinical trials to establish the safety and efficacy of the pharmaceutical for its intended use; (iv) submission to the FDA of an NDA; and (v) approval of the NDA by the FDA prior to any commercial sale or shipment of the agent.

Preclinical studies include laboratory evaluation of product chemistry and animal studies to assess the potential safety and efficacy of the product and its formulation. The results of the preclinical studies and the protocol for the proposed clinical trial are submitted to the FDA as part of an IND, and unless the FDA objects, the IND will become effective 30 days following its receipt by the FDA. Clinical trials are conducted in

## Edgar Filing: EPIX MEDICAL INC - Form 10-K

accordance with protocols that detail the objectives of the study, the parameters to be used to monitor safety and the efficacy criteria to be evaluated. Each protocol together with information about the clinical investigators who will perform the studies and the institutions at which the trials will be performed are submitted to the FDA as part of the IND.

An independent institutional review board, or IRB, at each institution at which the trial will be conducted will also be asked by the principal investigator at that institution to approve, according to FDA regulations governing IRBs, the trials that will be performed at that institution. The IRB will consider, among other things, ethical factors, the protection of human subjects and the possible liability of the institution and the adequacy of the informed consent.

Clinical trials under the IND are typically conducted in three sequential phases, but the phases may overlap. In Phase I, the initial introduction of the pharmaceutical into humans, the pharmaceutical is tested for safety, dosage tolerance, metabolism, distribution, excretion and clinical pharmacology in healthy adult subjects. Imaging agents may also be subject to a Phase IB trial under which an agent's imaging characteristics in humans are first evaluated. Phase II involves a detailed evaluation of the safety and efficacy of the agent in a range of doses in patients with the disease or condition being studied. Phase III clinical trials typically consist of evaluation of safety and efficacy in a larger patient population and at more institutions.

The process of completing clinical testing and obtaining FDA approval for a new product is likely to take a number of years. When the study for a particular indication as described in the IND is complete, and assuming that the results support the safety and efficacy of the product for that indication, the Company intends to submit an NDA to the FDA. The NDA approval process can be expensive, uncertain and lengthy. Although the FDA is supposed to complete its review of an NDA within 180 days of the date that it is filed, the review time is often significantly extended by the FDA, which may require more information or clarification of information already provided in the NDA. During the review period, an FDA advisory committee likely will be asked to review and evaluate the application and provide recommendations to the FDA about approval of the pharmaceutical. In addition, the FDA will inspect the facility at which the pharmaceutical is manufactured to ensure compliance with GMP and other applicable regulations. Failure of the third-party manufacturers to comply or come into compliance with GMP requirements could significantly delay FDA approval of the NDA. The FDA may grant an unconditional approval of an agent for a particular indication or may grant approval conditioned on further post-marketing testing and/or surveillance programs to monitor the agent's efficacy and side effects. Results of these post-marketing programs may prevent or limit the further marketing of the agent. In addition, further studies and a supplement to the initially approved NDA will be required to gain approval for the use of an approved product in indications other than those for which the NDA was approved initially.

22

---

After an NDA is approved, we would continue to be subject to pervasive and continuing regulation by the FDA, including record keeping requirements, reporting of adverse experience from the use of the agent and other requirements imposed by the FDA. FDA regulations also require FDA approval of an NDA supplement for certain changes if they affect the safety and efficacy of the pharmaceutical, including, but not limited to, new indications for use, labeling changes, the use of a different facility to manufacture, process or package the product, changes in manufacturing methods or quality control systems and changes in specifications for the product. Our failure to receive approval of an NDA supplement could have a material adverse effect on our business, financial condition and results of operations. The advertising of most FDA-regulated products is subject to FDA and Federal Trade Commission jurisdiction, but the FDA has sole jurisdiction over advertisements for prescription drugs. We are and may be subject to regulation under state and Federal law regarding occupational safety, laboratory practices, handling of chemicals, environmental protection and hazardous substance control. We also will be subject to existing present and possible future local, state, federal and foreign regulation. Failure to comply with regulatory requirements could have a material adverse effect on our business, financial condition and results of operations.

Approval and marketing of pharmaceutical products outside of the United States are subject to regulatory requirements that vary widely from country to country. The time required to obtain regulatory approval from comparable regulatory agencies in each foreign country may be longer or shorter than that required for FDA approval. In addition, in certain foreign markets we may be subject to governmentally mandated prices for our products.

Regulations regarding the approval, manufacture and sale of our product candidates are subject to change. We cannot predict what impact, if any, such changes might have on our business, financial condition or results of operations.

Our research, development and manufacturing processes require the use of hazardous substances and testing on certain laboratory animals. As a result, we are also subject to federal, state, and local laws, regulations and policies governing the use, generation, manufacture, storage, air emission, effluent discharge, handling and disposal of certain materials and waste as well as the use of and care of laboratory animals. These laws and regulations are all subject to change. We cannot predict what impact, if any, such changes might have on our business, financial condition or results of operations.

## Reimbursement

We expect that sales volumes and prices of our products will be dependent in large measure on the availability of reimbursement from third-party payors and that individuals seldom would be willing or able to pay directly for all the costs associated with procedures which in the future may incorporate the use of our products. We expect that our products will be purchased by hospitals, clinics, doctors and other users that bill various third-party payors, such as Medicare, Medicaid and other government insurance programs, and private payors including indemnity insurers, Blue Cross Blue Shield plans and managed care organizations, or MCOs, such as health maintenance organizations. Most of these third-party payors provide coverage for MRI for some indications when it is medically necessary, but the amount that a third-party payor will pay for MRI may not include a separate payment for a contrast imaging agent that is used with MRI. Reimbursement rates vary depending on the procedure performed, the third-party payor, the type of insurance plan and other factors.

In 2001, the Centers for Medicare and Medicaid Services (formerly HCFA) created additional payment codes for contrast-enhanced MRA procedures performed in outpatient settings, where we expect the majority of MRA procedures to occur, improving the reimbursement situation for such agents. Certain new contrast agents may also be eligible for additional pass-through payments. For inpatients, Medicare pays hospitals a prospectively determined amount for the entire patient stay based on a Medicare beneficiary's discharge diagnosis related group, or DRG. This payment usually includes

23

---

payment for any procedure, including MRI, that is performed while a beneficiary is in the hospital. No additional payment has been made for contrast agents used during the procedure. Other third-party payors may pay a hospital an additional amount for an MRI procedure performed on an in-patient according to another methodology such as a fee schedule or a percentage of charge. Such payment may or may not include a payment for a contrast-imaging agent.

Third-party payors carefully review and increasingly challenge the prices charged for procedures and medical products. In the past few years, the amounts paid for radiology procedures in particular have come under careful scrutiny and have been subject to decreasing reimbursement rates. In addition, an increasing percentage of insured individuals are receiving their medical care through MCOs which monitor and often require preapproval of the services that a member will receive. Many MCOs are paying their providers on a capitated basis which puts the providers at financial risk for the services provided to their patients by paying them a predetermined payment per member per month. The percentage of individuals, including Medicare beneficiaries, covered by MCOs is expected to grow in the United States over the next decade. We believe that the managed care approach to healthcare and the growth in capitated arrangements and other arrangements under which the providers are at financial risk for the services that are provided to their patients may facilitate the market acceptance of our products, as we believe that the use of our products will significantly lower the overall costs and improve the effectiveness of managing patient populations. We cannot assure you, however, that our products will be available, will lower costs of care for any patients or will be utilized by providers, or if reimbursement will be available.

In foreign markets, reimbursement is obtained from a variety of sources, including governmental authorities, private health insurance plans and labor unions. In most foreign countries, there are also private insurance systems that may offer payments for alternative therapies. Although not as prevalent as in the United States, health maintenance organizations are emerging in certain European countries. We may need to seek international reimbursement approvals, although we can not assure you that any such approvals will be obtained in a timely manner or at all. Failure to receive international reimbursement approvals could have a material adverse effect on market acceptance of our product candidates in the international markets in which such approvals are sought.

We believe that reimbursement in the future will be subject to increased restrictions such as those described above, both in the United States and in foreign markets. We believe that the overall escalating cost of medical products and services has led to, and will continue to lead to, increased pressures on the health care industry, both foreign and domestic, to reduce the cost of products and services, including products offered by the Company. There can be no assurance, in either the United States or foreign markets, that third party reimbursement will be available or adequate, that current reimbursement amounts will not be decreased in the future or that future legislation, regulation, or reimbursement policies of third-party payors will not otherwise adversely affect the demand for our product candidates or our ability to sell our product candidates on a profitable basis, particularly if MRI exams enhanced with our contrast agents are more expensive than competing vascular imaging techniques that are equally effective. The unavailability or inadequacy of third-party payor coverage or reimbursement could have a material adverse effect on our business, financial condition and results of operations.

## Employees

As of December 31, 2002 we employed 93 persons on a full-time basis, of which 71 were involved in research and development and 22 in administration and general management. Thirty-one of our employees hold Ph.D. or M.D. degrees. We believe that our relations are good with

our employees. None of our employees are a party to a collective bargaining agreement.

---

## Research and Development

During the years ended December 31, 2002, 2001 and 2000, we incurred research and development expenses of \$29,084,469, \$22,903,780 and \$25,833,243 respectively.

## Risk Factors

*An investment in our common stock involves a high degree of risk. You should carefully consider the following risk factors, other information included in this prospectus, any supplement to this prospectus and information in our periodic reports filed with the SEC. If any of the following risks actually occur, our business, financial condition or results of operations could be materially and adversely affected, and you may lose some or all of your investment.*

**We have never generated revenues from commercial sales of our products and, if MS-325 does not receive approval from the Food and Drug Administration, we will have no products to market in the foreseeable future.**

We currently have no products for sale, and we cannot guarantee that we will ever have marketable products. MS-325 is currently our only product candidate in human clinical trials, and we cannot be certain that any of our other development projects will yield a product candidate suitable for entry into clinical trials. As a result, our initial revenues and profits from commercial sales of our products, if any, will be derived from sales of MS-325. If MS-325 fails to achieve regulatory approval and market acceptance, and if we do not succeed in bringing any of our other product candidates to human clinical trials and achieve regulatory approval and market acceptance for them, our business will fail, and as a result, you may lose all or part of your investment.

To date, we have received revenues from payments made under licensing, royalty arrangements, product development and marketing agreements with strategic collaborators. In particular, our revenue for the year ended December 31, 2002 was \$12.3 million, and consisted of \$8.7 million from the product development portion of our strategic collaboration agreement with Schering AG and Pfizer, \$2.0 million from a patent licensing and royalty agreement with Bracco Imaging, S.p.A. and \$1.6 million of license fee revenue related to the strategic collaboration agreements for the development, manufacturing and marketing of MS-325 with Schering AG and Tyco/Mallinckrodt. In addition to these sources of revenue, we have financed our operations to date through public stock offerings, private sales of equity securities and equipment lease financings.

Although we are currently in compliance with the terms of our strategic collaboration agreements, the revenues derived from them are subject to fluctuation in timing and amount. We may not receive anticipated revenue under our existing collaboration or licensing agreements and, additionally, these agreements may be terminated upon certain circumstances. Therefore, to achieve profitable and sustainable operations, we, alone or with others, must successfully develop, obtain regulatory approval for, introduce, market and sell products. We do not expect to receive revenue from the sale of any of our product candidates for the next several years because we may not:

successfully complete our product development efforts;

obtain required regulatory approvals in a timely manner, if at all;

manufacture our product candidates at an acceptable cost and with acceptable quality; or

successfully market any approved products.

As a result, we may never generate revenues from sales of our product candidates and our failure to generate positive cash flow could cause our business to fail.

**We anticipate future losses and may never become profitable.**

Our future financial results are uncertain. We have experienced significant losses since we commenced operations in 1992. Our accumulated net losses as of December 31, 2002 were approximately \$114 million. These losses have primarily resulted from expenses associated with our research and development activities, including preclinical and clinical trials, and general and administrative expenses. We anticipate that our research and development expenses will increase significantly in the future, and we expect to incur substantial losses over at least the next several years as we expand our research and development efforts, pre-clinical testing and clinical trials and as we implement manufacturing, marketing and sales programs. As a result, we cannot predict when we will become profitable, if at all, and if we do, we may not remain profitable for any substantial period of time. If we fail to achieve profitability within the time frame expected by investors, the market price of our common stock may decline and consequently our business may not be sustainable.

**If the market does not accept our technology and products, we may not generate sufficient revenues to achieve or maintain profitability.**

The commercial success of MS-325 and our other product candidates, when and if approved for marketing by the FDA and corresponding foreign agencies, depends on their acceptance by the medical community and third party payors as clinically useful, cost-effective and safe. While contrast agents are currently used in an estimated 25% to 35% of all MRI exams, there are no MRI agents approved by the FDA for vascular imaging agents. Furthermore, clinical use of MRI for vascular imaging, known as magnetic resonance angiography (MRA), has been limited and use of MRA for peripheral vascular disease imaging has occurred mainly in research and academic centers. Market acceptance, and thus sales of our product candidates, will depend on several factors, including:

safety;

cost-effectiveness relative to alternative vascular imaging methods;

availability of third party reimbursement;

ease of administration;

clinical efficacy; and

availability of competitive products.

Market acceptance will also depend on our ability and that of our strategic partners to educate the medical community and third party payors about the benefits of diagnostic imaging with MRA enhanced with MS-325 compared to imaging with other technologies. MS-325 represents a new approach to imaging the peripheral vascular system, and market acceptance both of MRA as an appropriate imaging technique for the peripheral vascular system, and of MS-325, is critical to our success. If MS-325 or any of our other products do not achieve market acceptance, we may not generate sufficient revenues to achieve or maintain profitability.

**If we do not raise additional funds necessary to fund our operations, we may not be able to implement our business plan.**

Since inception, we have funded our operations primarily through our public offerings of common stock, private sales of equity securities, equipment lease financings and product development revenue, royalty and license payments from our strategic partners. We believe that we will need to raise substantial additional funds for research, development and other expenses, through equity or debt financings, strategic alliances or otherwise, prior to commercialization of any of our product candidates.

Our future liquidity and capital requirements will depend upon numerous factors, including the following:

## Edgar Filing: EPIX MEDICAL INC - Form 10-K

the progress and scope of clinical trials;

the timing and costs of filing future regulatory submissions;

the timing and costs required to receive both United States and foreign governmental approvals;

the cost of filing, prosecuting, defending and enforcing patent claims and other intellectual property rights;

the extent to which our products gain market acceptance;

the timing and costs of product introductions;

the extent of our ongoing research and development programs;

the costs of training physicians to become proficient with the use of our products; and

the costs of developing marketing and distribution capabilities.

We estimate that cash, cash equivalents and marketable securities on hand as of December 31, 2002 will be sufficient to fund our operations into the first quarter of 2004. We believe that we will need to raise additional funds for research, development and other expenses through equity or debt financing, strategic alliances or otherwise, in order to achieve commercial introduction of any of our product candidates. We anticipate that our development expenses for MS-325 will decrease significantly as a result of our having completed enrollment in our Phase III clinical trial program in the first quarter of 2003. In the absence of additional fundraising, in order to fund our operations into the second quarter of 2004, we would need to curtail our research programs, our thrombus program and significantly reduce operating expenses. We believe that program curtailment and operating expense reductions along these lines can be carried out without impacting our plans for submitting the NDA for MS-325.

### **We have a limited manufacturing capability and we intend to rely on outsourced manufacturing to produce MS-325.**

We do not have, nor do we currently have plans to develop, full-scale manufacturing capability for MS-325. While we do manufacture small amounts of MS-325 for research and development efforts, we intend to rely on Tyco/Mallinckrodt as the primary manufacturer of MS-325 for any future human clinical trials and commercial use. In the event that Tyco/Mallinckrodt fails to fulfill its manufacturing responsibilities satisfactorily, Schering AG has the right to purchase MS-325 from a third party or to manufacture the compound itself. However, either course of action could materially delay the manufacture and development of MS-325. Schering AG may not be able to find an alternative manufacturer. In addition, Schering AG may not be able to manufacture MS-325 itself in a timely manner. If we experience a delay in manufacturing, it could result in a delay in the approval or commercialization of MS-325 and have a material adverse effect on our business, financial condition and results of operations.

### **If MRI manufacturers are not able to enhance their hardware and software, we will not be able to complete development of our contrast agent for the evaluation of cardiac indications.**

Although magnetic resonance imaging hardware and software is sufficient for the evaluation of peripheral vascular disease, which is our primary target indication, we believe that the technology is not as advanced for cardiac applications, which will be one of our next clinical development targets. Our initial NDA filing for MS-325 will be related to peripheral vascular disease. Peripheral vascular disease, as it relates to our primary target indication, occurs in areas of the body where imaging sequences on

scanners currently allow for the use of MS-325-enhanced magnetic resonance angiography for diagnostic purposes, which covers the entire body's vascular system, except for the heart. Based on feasibility studies we have conducted, however, the imaging technology available for

## Edgar Filing: EPIX MEDICAL INC - Form 10-K

cardiac applications, including coronary angiography and cardiac perfusion imaging, is not developed to the point where there is clear visualization of the cardiac region, due to the effects of motion from breathing and from the beating of the heart. Although not our primary focus, we plan to continue to conduct feasibility studies for cardiac indications using available software and hardware that can be adopted for coronary and cardiac perfusion data acquisition. We have entered into research collaborations with General Electric Medical Systems and Phillips Medical Systems that include development and optimization of cardiac imaging sequences with contrast agents like MS-325. We have also collaborated with a number of leading academic institutions to help optimize cardiac imaging with MS-325. While significant progress has been made in developing these clinical applications for cardiac imaging, we do not know when, or if, these techniques will enable MS-325 to provide clinically relevant images in cardiac indications. If MRI product manufacturers are not able to enhance their scanners to perform clinically useful cardiac imaging, we will not be able to complete our development activities of MS-325 for that application, thereby reducing the potential market for a product in this area.

**Our competitors may have greater financial resources, superior products or product candidates, manufacturing capabilities and/or marketing expertise, and we may not be able to compete with them successfully.**

Medical technology is subject to intense competition and rapid technological change. We have many competitors, including pharmaceutical, biotechnology and chemical companies, a number of which, including our strategic partners, are actively developing and marketing products that could compete with our product candidates. Specifically, although there are no MRI contrast agents FDA-approved for vascular imaging, there are a number of general use MRI agents approved for other clinical applications in the United States and certain foreign markets that are likely to compete with MS-325 if MS-325 is approved for MRA. Collectively, these general use agents are referred to as "extracellular" agents, and include: Magnevist® and Gadovist® by Schering AG, Dotarem® by Guerbet, S.A., Omniscan® by Amersham Health, ProHance® and MultiHance® by Bracco Imaging S.p.A. and OptiMark® by Tyco/Mallinckrodt. Extracellular agents are broadly-accepted in the market as general use MRI agents. None of these agents is currently approved by the FDA for MRA, but their use in applications outside of the primary indication described in the product labeling is increasing and could present significant adoption hurdles for MS-325 if such use becomes entrenched in the marketplace. Additionally, we believe that some of these general use agents are in clinical trials for an MRA indication. However, these general use agents are not specifically designed for vascular imaging and because they "leak" out of the blood vessels into the extracellular space, they do not provide the extended imaging window associated with MS-325. In addition, we are aware of six agents that are under clinical development for use with MRA: Schering AG's Gadovist, Gadomer-17 and SHU555C, Guerbet's P792 (Vistarem), Bracco's B-22956/1 and Advanced Magnetic's Code 7228. Public information on the status of clinical development and performance characteristics for these agents is limited. However, many of these competitors have substantially greater capital and other resources than we do and may represent significant competition for us. These companies may succeed in developing technologies and products that are more effective or less costly than any of those that we may develop. In addition, these companies may be more successful than we are in developing, manufacturing and marketing products.

Moreover, there are several well-established medical imaging methods that currently compete and will continue to compete with MRI, including Digital Subtraction Angiography, or DSA, which is an improved form of X-ray angiography, CT angiography, nuclear medicine and ultrasound, and there are companies that are actively developing the capabilities of these competing methods to enhance their effectiveness in cardiovascular system imaging. DSA is currently considered the clinical gold standard

for cardiovascular angiography, but all methods offer advantages and disadvantages, which are described in the following table:

	<b>Advantages</b>	<b>Disadvantages</b>
MRI	<ul style="list-style-type: none"> <li>3-dimensional images</li> <li>Minimally-invasive</li> <li>Favorable safety profile</li> <li>High quality images</li> </ul>	<ul style="list-style-type: none"> <li>Requires high level of training</li> <li>Inadvisable for patients with cardiac pacemakers</li> <li>Less widely available</li> </ul>
CT Angiography	<ul style="list-style-type: none"> <li>Rapid and easy data acquisition</li> </ul>	<ul style="list-style-type: none"> <li>Radiation</li> <li>Varying levels of toxicity</li> <li>Calcium and bone artifacts</li> <li>Time consuming post-processing</li> </ul>
DSA (X-ray Angiography)	<ul style="list-style-type: none"> <li>Significant clinical experience</li> <li>Opportunity to treat in same procedure</li> <li>Highest resolution Highest resolution</li> </ul>	<ul style="list-style-type: none"> <li>Invasive</li> <li>Radiation</li> <li>Varying levels of toxicity</li> <li>Significant safety risks</li> <li>2-dimensional images</li> <li>Expensive</li> </ul>



## Edgar Filing: EPIX MEDICAL INC - Form 10-K

	Advantages	Disadvantages
Ultrasound	<ul style="list-style-type: none"> <li>Low cost</li> <li>Fast</li> <li>Widely available</li> <li>Non-invasive</li> </ul>	<ul style="list-style-type: none"> <li>Patient recuperation time</li> <li>Operator dependent</li> <li>Lack of anatomic detail</li> <li>Bone precludes use in many vascular beds</li> <li>Inability to visualize small vessels</li> </ul>

We cannot guarantee that we will be able to compete successfully in the future, or that developments by others will not render MS-325 or our future product candidates obsolete or non-competitive, or that our collaborators or customers will not choose to use competing technologies or products. Any inability to compete successfully on our part will have a materially adverse impact on our operating results.

**We currently depend on our strategic collaborators for support in product development and the regulatory approval process, and, in the future, will depend on them for product marketing support as well. These efforts may suffer if we experience problems with our collaborators.**

We depend on strategic collaborators for support in product development and the regulatory approval process as well as a variety of other activities including manufacturing, marketing and distribution of our products in the United States and abroad, when, and if, the FDA and corresponding foreign agencies approve our product candidates for marketing. To date, we have entered into strategic alliances and collaborations with Schering AG, Tyco/Mallinckrodt, General Electric Medical Systems, Philips Medical Systems and Siemens Medical Systems. Two of our key agreements include a collaboration agreement with Schering AG, to develop and commercialize MS-325 and other MRI vascular agents worldwide, and an agreement with Tyco/Mallinckrodt, granting Tyco/Mallinckrodt rights to enter into an agreement with Schering AG to manufacture MS-325 for clinical development and commercial use. We may not receive milestone payments from these alliances should MS-325 fail to meet certain performance targets in clinical trials. Further, our receipt of revenues from strategic alliances is affected by the level of efforts of our collaborators. Our collaborators may not devote the resources necessary to complete development, and commence marketing of MS-325 in their respective territories, or they may not successfully market MS-325. In addition, Schering AG and Tyco/Mallinckrodt currently manufacture imaging agents for other technologies that will compete against MS-325 and Schering AG will be responsible for setting the price of the product worldwide. However, Schering AG may not set prices in a manner that maximizes revenues for us. We are currently in compliance with the terms of these agreements, and although we have completed Phase III clinical trials, our failure to receive future milestone payments, or a reduction or discontinuance of efforts by

our partners would have a material adverse effect on our business, financial condition and results of operations.

Furthermore, our collaboration agreement with Schering AG may be terminated early under certain circumstances, including if there is a material breach of the agreement by either of us. In addition, we intend to seek additional collaborations with third parties, who may negotiate provisions that allow them to terminate their agreements with us prior to the expiration of the negotiated term under certain circumstances. If Schering AG or any other third party collaborator were to terminate its agreement with us or otherwise fail to perform its obligations under our collaboration or to complete them in a timely manner, we could lose significant revenue. If we are unable to enter into future strategic alliances with capable partners on commercially reasonable terms, we may delay the development and commercialization of future product candidates and could possibly postpone them indefinitely.

**We depend on exclusively licensed technology from the Massachusetts General Hospital and if we lose this license, it is unlikely we could obtain this technology elsewhere, which would have a material adverse effect on our business.**

Under the terms of a license agreement that we have with Massachusetts General Hospital, or MGH, we are the exclusive licensee to certain technology, including patents and patent applications, which relate to our product candidates, including MS-325. The license agreement imposes various commercialization, sublicensing, royalty and other obligations on us. If we fail to comply with these and other requirements our license could convert from exclusive to nonexclusive or terminate entirely. It is unlikely that we would be able to obtain this technology elsewhere. Any such event would mean that we would be unlikely to produce our product candidates, including MS-325, and would therefore have a material adverse effect on our business, financial condition and results of operations. Currently, we are in compliance with the terms of the license agreement, and we do not have any reason to believe that this license may be terminated.

**We depend on patents and other proprietary rights, and if they fail to protect our business, we may not be able to compete effectively.**

The protection of our proprietary technologies is material to our business prospects. We pursue a comprehensive patent program for our product candidates in the United States and in other countries where we believe that significant market opportunities exist. We own or have an exclusive license to patents and patent applications on the critical aspects of our core technology as well as many specific applications of this technology. Specifically, patents and patent applications related to our core technology consist of two U.S. patents that are exclusively licensed to us from MGH, as well as their counterpart patents and applications in foreign countries; two U.S. patents and their counterpart patents and applications in foreign countries that we own; eight patent applications and six provisional patent applications on fourteen different subject matters as well as their counterpart patents and applications in foreign countries. One of our issued patents covers the process by which MS-325 is manufactured. Even though we hold these patents and have made these patent applications, because the patent positions of pharmaceutical and biopharmaceutical firms, including ours, generally include complex legal and factual questions, our patent position remains uncertain. For example, because patent applications in the United States with foreign counterparts and foreign applications are maintained in secrecy until patents are issued or published, and patent applications in foreign countries are maintained in secrecy for a specified period after filing, we cannot be certain that the named applicants or inventors of the subject matter covered by our patent applications or patents, whether directly owned or licensed to us, were the first to invent or the first to file patent applications for such inventions. Third parties may oppose, challenge, infringe upon, circumvent or seek to invalidate existing or future patents owned by or licensed to us. A court or other agency with jurisdiction may find our

30

---

patents invalid, not infringed or unenforceable and we cannot be sure that patents will be granted with respect to any of our pending patent applications or with respect to any patent applications filed by us in the future. Even if we have valid patents, these patents still may not provide sufficient protection against competing products or processes. If we are unable to successfully protect our proprietary methods and technologies, or, if our patent applications do not result in issued patents, we may not be able to prevent other companies from practicing our technology and, as a result, our competitive position would be harmed.

**We may need to initiate lawsuits to protect or enforce our patents and other intellectual property rights, which could incur substantial costs, and which could result in the forfeiture of these rights.**

We may need to bring costly and time-consuming litigation against third parties in order to enforce our issued patents, protect our trade secrets and know how, or to determine the enforceability, scope and validity of proprietary rights of others. In addition to being costly and time-consuming, such lawsuits could divert management's attention from other business concerns. These lawsuits could also result in the invalidation or a limitation in the scope of our patents or forfeiture of the rights associated with our patents or pending patent applications. We may not prevail and a court may find damages or award other remedies in favor of an opposing party in any such lawsuits. During the course of these suits, there may be public announcements of the results of hearings, motions and other interim proceedings or developments in the litigation. Securities analysts or investors may perceive these announcements to be negative, which could cause the market price of our stock to decline. In addition, the cost of such litigation could have a material adverse effect on our business and financial condition.

**Other rights and measures that we rely upon to protect our intellectual property may not be adequate to protect our products and services and could reduce our ability to compete in the market.**

In addition to patents, we rely on a combination of trade secrets, copyright and trademark laws, nondisclosure agreements and other contractual provisions and technical measures to protect our intellectual property rights. While we require employees, collaborators, consultants and other third parties to enter into confidentiality and/or non-disclosure agreements where appropriate, any of the following could still occur:

the agreements may be breached;

we may have inadequate remedies for any breach;

proprietary information could be disclosed to our competitors; or

others may independently develop substantially equivalent proprietary information and techniques or otherwise gain access to our trade secrets or disclose such technologies.

If, for any of the above reasons, our intellectual property is disclosed or misappropriated, it would harm our ability to protect our rights and our competitive position. Moreover, several of our management and scientific personnel were formerly associated with other pharmaceutical and

biotechnology companies and academic institutions. In some cases, these individuals are conducting research in similar areas with which they were involved prior to joining us. As a result, we, as well as these individuals, could be subject to claims of violation of trade secrets and similar claims.

**Our success will depend partly on our ability to operate without infringing the intellectual property rights of others, and if we are unable to do so, we may not be able to sell our products.**

Our commercial success will depend, to a significant degree, on our ability to operate without infringing upon the patents of others in the United States and abroad. There may be pending or issued patents, held by parties not affiliated with us, relating to technologies we use in the development or use of certain of our contrast agents. If any judicial or administrative proceeding upholds any third party

patents as valid and enforceable, we could be prevented from practicing the subject matter claimed in such patents, or would be required to obtain licenses from the owners of each such patent, or to redesign our products or processes to avoid infringement. If we are unable to obtain a required license on acceptable terms, or are unable to design around any third party patent, we may be unable to sell our products, which would have a material adverse effect on our business.

**Extensive government regulation may delay or prevent us from marketing MS-325 or our other products under development.**

We are subject to extensive U.S. and foreign governmental regulatory requirements and lengthy approval processes for our product candidates. The development and commercial use of our product candidates will be regulated by numerous federal, state, local and foreign governmental authorities in the U.S., including the FDA and foreign regulatory agencies. The nature of our research and development and manufacturing processes requires the use of hazardous substances and testing on certain laboratory animals. Accordingly, we are subject to extensive federal, state and local laws, rules, regulations and policies governing the use, generation, manufacture, storage, air emission, effluent discharge, handling and disposal of certain materials and wastes, as well as the use of and care for laboratory animals. Although we believe we are in compliance with all such laws and maintain policies and procedures to ensure that we remain in compliance, if we fail to comply or if an accident occurs, we may be exposed to legal risk and be required to pay significant penalties or be held liable for any damages that result. Such liability could exceed our financial resources. Furthermore, current laws could change and new laws could be passed that may force us to change our policies and procedures, an event which could impose significant costs on us.

Specifically, MS-325 is regulated by the FDA as a pharmaceutical product. The FDA has established substantial requirements for the research, development, manufacture and marketing of pharmaceutical products. The process required by the FDA before MS-325 and our other product candidates may be marketed in the U.S. typically involves the performance of preclinical laboratory and animal tests; submission of an investigational new drug application or IND; completion of human clinical trials; submission of a new drug application, or NDA, to the FDA; and FDA approval of the NDA.

This regulatory approval process is lengthy and expensive. Although some of our employees have experience in obtaining regulatory approvals, we have only limited experience in filing or pursuing applications necessary to gain regulatory approvals. Preclinical testing of our product development candidates is subject to Good Laboratory Practices as prescribed by the FDA and the manufacture of any products developed by us will be subject to Good Manufacturing Practices as prescribed by the FDA. We may not obtain the necessary FDA clearances and subsequent approvals in a timely manner, if at all. We can not be sure as to the length of the clinical trial period or the number of patients that will be required to be tested in the clinical trials in order to establish the safety and efficacy of MS-325 or any of our future product candidates. Our clinical trials may not be successful, and we may not complete them in a timely manner. We could report serious side effects as the clinical trials proceed. Our results from early clinical trials may not predict results that we obtain in later clinical trials, even after promising results in earlier trials. The rate of completion of our clinical trials depends upon, among other things, the rate of patient enrollment and subsequent blinded reading of images and data analysis. Furthermore, we, the FDA or other regulatory authorities may alter, suspend or terminate clinical trials at any time. For example, in September 2001, after discussions with the FDA, we expanded our initial target indication for MS-325 from one specific body region, the aortoiliac region, to a broader indication that includes the entire body's peripheral vascular system, except for the heart. This expansion required us to add two new clinical trials to our then existing Phase III clinical trial program, one to determine the efficacy of MS-325 enhanced MRA for the detection of peripheral vascular disease in the renal (kidney) arteries, and another to determine the efficacy of MS-325

enhanced MRA for the detection of peripheral vascular disease in the pedal (feet) arteries. Although providing us with greater market potential for the sale of MS-325 upon approval, this change to our Phase III clinical trial program, and the associated delay in the start up of new clinical centers, resulted in an approximate fifteen month delay in our NDA submission and an increase in costs associated with the program. If we do not successfully complete our Phase III clinical trial program, we will not have a product to market.

In addition, we may encounter unanticipated delays or significant costs in our efforts to secure necessary approvals. We may not obtain regulatory approval, even after the performance of clinical trials and the passage of time and the expenditure of such resources, for MS-325 or any other product candidates that we develop. Our analysis of data obtained from preclinical and clinical activities is subject to confirmation and interpretation by regulatory authorities, which could delay, limit or prevent FDA regulatory approval. Delays in obtaining government regulatory approval could adversely affect our marketing as well as our ability to generate significant revenues from commercial sales.

Future United States legislative or administrative actions also could prevent or delay regulatory approval of our product candidates. Even if we obtain regulatory approvals, they may include significant limitations on the indicated uses for which we may market a product. A marketed product also is subject to continual FDA and other regulatory agency review and regulation. Later discovery of previously unknown problems or failure to comply with the applicable regulatory requirements may result in restrictions on the marketing of a product or withdrawal of the product from the market, as well as possible civil or criminal sanctions. Further, many academic institutions and companies conducting research and clinical trials in the MRI contrast agent field are using a variety of approaches and technologies. If researchers obtain any adverse results in preclinical studies or clinical trials, it could adversely affect the regulatory environment for MRI contrast agents generally. In addition, if we obtain marketing approval, the FDA may require post marketing testing and surveillance programs to monitor the product's efficacy and side effects. Results of these post-marketing programs may prevent or limit the further marketing of the monitored product. If we cannot successfully market our products, we will not generate sufficient revenues to achieve or maintain profitability.

Our strategic partners and we are also subject to numerous and varying foreign regulatory requirements governing the design and conduct of clinical trials and the manufacturing and marketing of our products. The foreign regulatory approval process may include all of the risks associated with obtaining FDA approval set forth above, and we may not obtain foreign regulatory approvals on a timely basis, if at all, thereby compromising our ability to market our products abroad.

**Product liability claims could increase our costs and adversely affect our results of operations.**

The clinical testing, manufacturing and marketing of our product candidates may expose us to product liability claims, and we may experience material product liability losses in the future. We currently have limited product liability insurance for the use of our product candidates in clinical research, but our coverage may not continue to be available on terms acceptable to us or adequate for liabilities we actually incur. We do not have product liability insurance coverage for the commercial sale of our products but intend to obtain such coverage if and when we commercialize our product candidates. However, we may not be able to obtain adequate additional product liability insurance coverage on acceptable terms, if at all. A successful claim brought against us in excess of available insurance coverage, or any claim or product recall that results in significant adverse publicity against us, may have a material adverse effect on our business and results of operations.

**If we fail to get adequate levels of reimbursement from third party payors for our product candidates after they are approved in the U.S. and abroad, we will have difficulty commercializing our product candidates.**

We could be adversely affected by changes in reimbursement policies of governmental or private healthcare payors, particularly to the extent any such changes affect reimbursement for procedures in which our product candidates would be used. Failure by physicians, hospitals and other users of our products to obtain sufficient reimbursement from third party payors for the procedures in which our products would be used or adverse changes in governmental and private third party payors' policies toward reimbursement for such procedures would have a material adverse effect on our ability to market our products and consequently it would have an adverse effect on our business, financial condition and results of operations. If we obtain the necessary foreign regulatory approvals, market acceptance of our product candidates in international markets would be dependent, in part, upon the availability of reimbursement within prevailing healthcare payment systems. Reimbursement and healthcare payment systems in international markets vary significantly by country, and include both government sponsored health care and private insurance. We intend to seek international reimbursement approvals, although we cannot assure you that any such approvals will be obtained in a timely manner, if at all, and failure to receive international reimbursement approvals could have an adverse effect on market acceptance of our products in the international markets in which such approvals are sought.

**We depend on our key personnel, the loss of whom would hurt our ability to compete.**

## Edgar Filing: EPIX MEDICAL INC - Form 10-K

Our future business and operating results depend in significant part upon the continued contributions of our senior management and key technical personnel. If any such personnel were to be hired away from us by a competitor, or if for any reason, they could not continue to work for us, we would have difficulty hiring officers with equivalent skills in general, financial and research management and our ability to achieve our business objectives or to operate or compete in our industry may be seriously impaired. Although we maintain key life insurance on the lives of some key officers, the loss of any key employee, the failure of any key employee to perform in his or her current position, or our inability to attract and retain skilled employees, as needed, could have a material adverse effect on our business, financial condition and results of operations. Our future business and operating results also depend in significant part upon our ability to attract and retain qualified management, operational and technical personnel. Competition for this personnel is intense, and we may not be successful in attracting or retaining such personnel. If we were to lose these employees to our competitors, we could spend a significant amount of time and resources to replace them, which would impair our research and development efforts.

### **Our stock price is volatile. It is possible that you may lose all or part of your investment.**

The market prices of the capital stock of medical technology companies have historically been very volatile, and the market price of the shares of our common stock fluctuates. The market price of our common stock is affected by numerous factors, including:

actual or anticipated fluctuations in our operating results;

announcements of technological innovation or new commercial products by us or our competitors;

new collaborations entered into by us or our competitors;

developments with respect to proprietary rights, including patent and litigation matters;

results of pre-clinical and clinical trials;

34

---

conditions and trends in the pharmaceutical and other technology industries;

adoption of new accounting standards affecting such industries;

changes in financial estimates by securities analysts; and

degree of trading liquidity in our common stock and general market conditions.

During 2002, the closing price of our common stock ranged from \$16.20 to \$3.55. Our common stock reached a high of \$8.90 and traded as low as \$6.21 for the period January 2, 2003 through March 24, 2003. The last reported sales price for our common stock on March 24, 2003 was \$8.00. If our stock price declines significantly, we may be unable to raise additional capital. Significant declines in the price of our common stock could also impede our ability to attract and retain qualified employees and reduce the liquidity of our common stock.

In addition, the stock market has from time to time experienced significant price and volume fluctuations that have particularly affected the market prices for the common stock of similarly staged companies. These broad market fluctuations may adversely affect the market price of our common stock. In the past, following periods of volatility in the market price of a particular company's securities, shareholders have often brought class action securities litigation against that company. Such litigation, if brought against us, could result in substantial costs and a diversion of management's attention and resources.

### **Certain anti-takeover clauses in our charter and by-law provisions and in Delaware law may make an acquisition of us more difficult.**

## Edgar Filing: EPIX MEDICAL INC - Form 10-K

Our Restated Certificate of Incorporation authorizes the Board of Directors to issue, without stockholder approval, up to 1,000,000 shares of preferred stock with voting, conversion and other rights and preferences that could adversely affect the voting power or other rights of the holders of Common Stock. The issuance of Preferred Stock or of rights to purchase Preferred Stock could be used to discourage an unsolicited acquisition proposal. In addition, the possible issuance of Preferred Stock could discourage a proxy contest, make more difficult the acquisition of a substantial block of our Common Stock or limit the price that investors might be willing to pay for shares of our Common Stock. The Restated Certificate provides for staggered terms for the members of the Board of Directors. A staggered Board of Directors and certain provisions of our By-laws and of Delaware law applicable to us could delay or make more difficult a merger, tender offer or proxy contest involving us. We, for example, are subject to Section 203 of the General Corporate Law of Delaware, which, subject to certain exceptions, restricts certain transactions and business combinations between a corporation and a stockholder owning 15% or more of the corporation's outstanding voting stock for a period of three years from the date the stockholder becomes an interested stockholder. These provisions may have the effect of delaying or preventing a change of control of us without action by the stockholders and, therefore, could adversely affect the price of our stock.

35

### ITEM 2. PROPERTIES

We lease a total of 22,950 square feet of space at 71 Rogers Street and adjacent locations, and 13,310 square feet at 161 First Street, all in Cambridge, Massachusetts. The current lease at 71 Rogers Street and adjacent locations runs until December 31, 2007, and our lease at 161 First Street runs until October 31, 2003. Our current facilities are adequate to meet our needs until the expiration of the leases in October 2003. If we are unable to extend the lease that expires in October 2003, we expect that adequate alternative space will be available at acceptable terms.

### ITEM 3. LEGAL PROCEEDINGS

We are not a party to any material pending legal proceedings.

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

No matters were submitted to a vote of our security holders during the quarter ended December 31, 2002.

## PART II

### ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY AND RELATED STOCKHOLDER MATTERS

Our Common Stock commenced trading on the NASDAQ Stock Market on January 30, 1997 under the symbol "EPIX", and is listed on NASDAQ's National Market. The following table sets forth, for the periods indicated, the range of the high and low bid prices for our Common Stock:

	<u>High</u>	<u>Low</u>
<b>2001</b>		
First Quarter	\$ 13.63	\$ 8.03
Second Quarter	12.35	7.10
Third Quarter	12.26	7.02
Fourth Quarter	14.60	6.24
<b>2002</b>		
First Quarter	\$ 16.20	\$ 11.48
Second Quarter	15.50	8.25
Third Quarter	10.72	3.55
Fourth Quarter	9.95	4.25

The above quotations reflect inter-dealer prices without retail mark-up, markdown or commission and may not necessarily represent actual transactions.

## Edgar Filing: EPIX MEDICAL INC - Form 10-K

On March 24, 2003, the last reported bid price for the Common Stock was \$8.00 per share. As of March 24, 2003, there were approximately 87 holders of record of our Common Stock. To date, we have neither declared nor paid any cash dividends on shares of our Common Stock and do not anticipate doing so for the foreseeable future.

### ITEM 6. SELECTED FINANCIAL DATA

The following selected financial data are derived from our audited financial statements and should be read in conjunction with "Management's Discussion and Analysis of Financial Condition and Results

36

of Operations," the Financial Statements, related Notes and other financial information included elsewhere herein.

	Year Ended December 31,				
	2002	2001	2000	1999	1998
	(In thousands, except per share data)				
<b>Statement of Operations Data:</b>					
Revenues	\$ 12,270	\$ 9,569	\$ 6,924	\$ 1,144	\$ 1,781
Operating loss	(22,816)	(18,841)	(23,745)	(17,935)	(15,825)
Loss before provision for income taxes	(22,098)	(18,156)	(22,957)	(16,983)	(13,998)
Provision for income taxes	94	1,092			
Loss before cumulative effect of change in accounting principle	(22,191)	(19,248)	(22,957)	(16,983)	(13,998)
Cumulative effect of change in accounting principle (1)			(4,363)		
Net loss	\$ (22,191)	\$ (19,248)	\$ (27,320)	\$ (16,983)	\$ (13,998)
<b>Weighted average common shares outstanding:</b>					
Basic and diluted	16,878	14,007	12,445	11,556	11,354
<b>Loss per share:</b>					
Loss before cumulative effect of change in accounting principle	\$ (1.31)	\$ (1.38)	\$ (1.85)	\$ (1.47)	\$ (1.23)
Cumulative effect of change in accounting principle			\$ (0.35)		
Net loss, basic and diluted	\$ (1.31)	\$ (1.38)	\$ (2.20)	\$ (1.47)	\$ (1.23)
<b>Pro forma amounts assuming the accounting change is applied retroactively (1):</b>					
Net loss			\$ (22,957)	\$ (15,892)	\$ (12,907)
Net loss per share, basic and diluted			\$ (1.85)	\$ (1.38)	\$ (1.14)
	December 31,				
	2002	2001	2000	1999	1998
<b>Balance Sheet Data:</b>					
Cash, cash equivalents and marketable securities	\$ 28,112	\$ 24,966	\$ 24,713	\$ 14,140	\$ 29,101
Working capital	12,364	8,277	15,020	10,514	25,593
Total assets	30,155	26,911	29,681	17,886	32,903
Long-term liabilities	7,829	12,844	10,050	2,281	1,374

December 31,

	December 31,				
Total stockholders' equity (deficit)	5,887	(3,210)	6,566	10,764	27,503

(1)

The cumulative effect of change in accounting principle is a one-time, non-cash charge relating to our adoption of SEC Staff Accounting Bulletin No. 101, *Revenue Recognition* ("SAB 101"). SAB 101 was issued by the Securities and Exchange Commission (SEC) in December 1999 and provides guidance related to revenue recognition policies based on interpretations and practices followed by the SEC. The impact of our adoption of SAB 101 was to defer revenue recognition for certain portions of the revenue previously recognized by us under our strategic alliances into future accounting periods.

37

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

### Overview

Since commencing operations in 1992, we have been principally engaged in the research and development of our product candidates, as well as seeking various regulatory clearances and patent protection. We have had no revenues from sales of our products and have incurred cumulative losses since inception through December 31, 2002 aggregating approximately \$114 million.

We expect continued operating losses for the next several years as we incur expenses to support research and development efforts to obtain regulatory approvals for our product candidates.

Our initial product candidate, MS-325, is currently our only product candidate undergoing human clinical trials. We filed an investigational new drug (IND) application for MS-325 in July 1996. We initiated a Phase I clinical trial in 1996 and a Phase I dose escalation study in 1997, both of which have been completed. We completed a Phase II clinical trial in June 1998 to test the safety and preliminary efficacy of MS-325-enhanced magnetic resonance angiography, or MRA, for the evaluation of peripheral vascular disease and also completed a Phase II trial in June 2001 that was designed to compare the diagnostic accuracy of five different doses of MS-325-enhanced MRA with that of X-ray angiography in the aortoiliac arteries. In 2001, we completed enrollment in the first study of a two-arm Phase III clinical trial, which was initiated in June 1999, and was designed to determine the efficacy of MS-325-enhanced MRA for the detection of aortoiliac occlusive disease. We announced the results of this trial in March 2002. In October 2002, we announced that we had completed patient enrollment in the second of the two trials designed to detect peripheral vascular disease in the aortoiliac arteries. We announced results of this trial in March 2003. In September 2001, after discussions with the FDA, we expanded our initial target indication for MS-325 beyond aortoiliac occlusive disease to a broad peripheral vascular disease indication, which we expect will include the entire vasculature except for the heart. As a result of this expansion, we added two new Phase III trials to our Phase III clinical trial program, one currently in the renal (kidney) arteries and one in the pedal (feet) arteries. In February 2003, we announced that we had completed patient enrollment in these studies. We plan to submit a New Drug Application, or NDA, to the FDA in 2003.

In March 2000, we completed enrollment in a Phase II clinical trial to test the safety and feasibility of MS-325 for detecting breast cancer, and in March 2001, we completed enrollment in a Phase II feasibility trial, which we conducted in collaboration with Pfizer, Inc. to explore the efficacy of MS-325-enhanced MRA in the diagnosis of female sexual arousal dysfunction. In April 2002, to complete our safety database for our NDA submission, we closed our MS-325-enhanced MRA Phase II feasibility trial for coronary artery disease.

We anticipate fluctuations in our quarterly results of operations due to several factors, including: the timing of fees and milestone payments received from strategic partners; the formation of new strategic alliances between us and third parties; the timing of expenditures in connection with research and development activities; the timing of product introductions and associated launch, marketing and sales activities; and the timing and extent of product acceptance for different indications and geographical areas of the world.

### Critical Accounting Policies

The discussion and analysis of our financial condition and results of operations is based on our 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 our reported assets and liabilities, revenues and expenses, and

38



other financial information. Actual results may differ significantly from the estimates under different assumptions and conditions.

In December 2001, the U.S. Securities and Exchange Commission, or the Commission, requested that all registrants discuss their most "critical accounting policies" in Management's Discussion and Analysis of Financial Condition and Results of Operations. The Commission indicated that a "critical accounting policy" is one that is both important to the portrayal of the Company's financial condition and operating results and requires management's most difficult, subjective or complex judgments, often as a result of the need to make estimates about the effect of matters that are inherently uncertain.

Our critical accounting policies are as follows:

### **Revenue Recognition**

In 2000, we adopted SEC Staff Accounting Bulletin No. 101, or SAB 101, "Revenue Recognition in Financial Statements" retroactively to January 1, 2000, changing our method of recognizing revenue. Under SAB 101, we recognize revenues from non-refundable license fees and milestone payments not specifically tied to a separate earning process ratably over the period during which we have substantial continuing obligations to perform services under the contract. When the period of deferral cannot be specifically identified from the contract, we estimate the period of deferral based upon our obligations under the contract. We continually review these estimates and, if any of these estimates change, an adjustment is recorded in the period in which they can become reasonably estimable. These adjustments could have a material effect on our results of operations. In the third quarter of 2002, we increased the estimated time period over which we will provide services under the Tyco agreement from 89 months to 93 months, resulting in a reduction in 2002 revenues of approximately \$110,000.

Payments received from Schering AG for development cost sharing obligations are recorded as revenue when the underlying costs are incurred. Non-refundable payments received for which revenue has not been earned are recorded as deferred revenue. Contract advances represent refundable amounts received in advance of services rendered.

Royalty revenues are recognized based on actual revenues as reported to us by Bracco. When actual results are not available, we estimate royalty revenues based on Bracco's estimates of historical revenues and trends. We continually review these estimates and record adjustments to the estimates when we receive actual information from Bracco. These adjustments have not been significant to date, but could have a material effect on our future results of operations.

### **Research and Development**

Research and development costs, including those associated with technology, licenses and patents, are expensed as incurred. Research and development costs primarily include employee salaries and related costs, third party service costs and consulting expenses.

In order to conduct the clinical trials required for the Company's initial product, MS-325, the Company enters into contracts with vendors who render services over an extended period of time, generally one to three years. Typically, the Company enters into two types of vendor contracts, time based and patient based. Under a time based contract, using critical factors contained within the contract, typically the stated duration of the contract, and the timing of services provided, the Company records the contractual expense for each service provided under the contract ratably over the period during which the Company estimates the service will be performed. Under a patient based contract, the Company first determines an appropriate per patient cost using critical factors contained within the contract, which include the estimated number of patients and the total dollar value of the contract. The Company then records expense based upon the total number of patients enrolled during the period. On a quarterly basis, the Company reviews both the timetable of services to be rendered and the timing of

services actually received. Based upon this review, revisions may be made to the forecasted timetable or to the extent of services performed, or both, in order to reflect the Company's most current estimate of the contract. Adjustments are recorded in the period in which the revisions are estimable. These adjustments could have a material effect on our results of operations.

### **Employee Stock Compensation**

We have elected to follow Accounting Principles Board Opinion No. 25, "Accounting for Stock Issued to Employees," or APB 25, and related interpretations in accounting for our employee stock options because the alternative fair value accounting provided for under Statement of Financial Accounting Standards ("SFAS") No. 123, "Accounting for Stock-Based Compensation," as amended by SFAS No. 148, requires use of option valuation models that were not developed for use in valuing employee stock options. Under APB 25, because the exercise price equals the market price of the underlying stock on the date of the grant, no compensation expense is recognized. If we accounted for stock options

## Edgar Filing: EPIX MEDICAL INC - Form 10-K

under SFAS 123, we would have recorded additional compensation expense for the stock option grants to employees. If we are unable to or decide not to continue to account for stock options under APB 25, our financial results would be materially adversely affected to the extent of the additional compensation expense we would have to recognize, which could change significantly from period to period based on several factors including the number of stock options granted and fluctuations in our stock price and/or interest rates. See also Note 2 to the Financial Statements.

### Results of Operations

#### Years ended December 31, 2002 and 2001

##### Revenues

Revenues for the years ended December 31, 2002 and 2001 were \$12.3 million and \$9.6 million, respectively. Revenues for 2002 consisted of \$8.7 million of product development revenue from Schering AG, \$1.6 million of royalty and license fee revenue related to the Bracco agreement and \$2.0 million of license fee revenue related to the Schering AG and Tyco strategic collaboration agreements for the development and marketing of MS-325. The increase in revenue of \$2.7 million primarily related to product development revenue from Schering AG.

##### Research and Development Expenses

Research and development expenses for the year ended December 31, 2002 were \$29.1 million as compared to \$22.9 million for 2001. The increase in 2002 of \$6.2 million was primarily attributable to increased costs associated with research and development personnel and clinical trials related to the advancement of MS-325 through Phase III clinical trials and to increased costs for personnel and other resources to support research and development for our potential discovery phase products.

We are currently performing research and development activities for two projects, MS-325, which is completing Phase III clinical trials and our thrombus program, which is in the preclinical stage. MS-325 is an injectable intravascular contrast agent intended to enhance the quality of MR images and provide physicians with a superior method for diagnosing diseases affecting the vasculature. We have completed enrollment in a Phase III clinical trial program to test the safety and efficacy of MS-325-enhanced MRA for the evaluation of peripheral vascular disease. We plan to submit our NDA related to MS-325 to the FDA in 2003. The FDA review process of an NDA submission can vary widely. If granted expedited review, we could receive product approval within six to eight months from the date of the NDA filing date. However, historically, the FDA has required approximately twelve months to review a product NDA prior to initial regulatory action with an additional period of at least three to six months required prior to approval. If approved by the FDA, our partner, Schering AG, will have primary responsibility for the product launch and marketing of MS-325.

40

---

Both the time-frame and costs involved in completing the development of MS-325, gaining FDA approval and commercializing the product may vary greatly for several reasons, including the following:

We conduct our Phase III clinical trial program in accordance with specific protocols, which we have filed with the FDA. If the FDA modifies the protocols we have filed with them or requires us to perform additional studies, we could incur significant additional costs and additional time to complete our Phase III clinical trial program according to the revised plan. This would also result in a delay in our ability to file an NDA with the FDA and a delay in the commercialization of our product.

We rely on third party clinical trial centers to find suitable patients for our clinical trial program. If these third parties do not find suitable patients in the time-frame for which we have planned, we will not be able to complete our clinical trial program according to our expected schedule. Such a delay would result in an increase in costs for the development of our MS-325 program, a delay in filing an NDA with the FDA, and a delay in commercialization of our product.

The length of time that the FDA takes to review our NDA and the length of time it takes us to respond to FDA questions can also vary widely. Any delay in that process would result in an increase in costs and a delay in the commercialization of our product.

## Edgar Filing: EPIX MEDICAL INC - Form 10-K

Our partner, Schering AG, is responsible for the launch and marketing of MS-325. If they do not launch the product in a timely manner or market the product effectively, we will incur a delay in receiving revenues after the launch of MS-325 and may not receive enough revenue to enable us to be profitable.

Our current plans for completing the development of MS-325 and achieving commercialization reflect our best estimate of the time involved in completing the remaining steps in the development program based on factors currently known to us. The third parties described above have the ability to greatly impact this timetable, and we may not have control over or be able to respond within our current plan to changes caused by them. Any such delays could result in a significant increase in costs to complete development of MS-325 as well as a delay in product launch, which could enable competition to intensify.

For our second project, the thrombus program, we are seeking to develop a targeted contrast agent that would enable MRI to illuminate blood clots. Such a product could potentially change the diagnostic work-up for many of the conditions associated with thromboembolic disease, including pulmonary embolism and deep vein thrombosis. We believe that the use of this new approach could lead to better medical outcomes due to earlier and more definitive diagnosis. We further believe that our proprietary technology platform could enable MRI to differentiate old and new clot formation, potentially identifying those clots that pose the most risk to patients and those that are the most treatable.

We have not yet entered into a strategic collaboration with a third party for the development and marketing of our thrombus program. Therefore, we have generated no revenues from this program and have fully funded its costs to date.

The amounts of the expenditures that will be necessary to execute our thrombus business plan are subject to numerous uncertainties, which may adversely affect our liquidity and capital resources. Completion of product candidates may take several years or more, but the length of time generally varies substantially according to the type, complexity, novelty and intended use of a product candidate. Consequently, we cannot predict, at this time, the amount of research and development costs that we will incur with regards to our thrombus program.

41

---

The duration and cost of bringing a product to market may vary significantly over the life of a project as a result of differences arising during and after clinical trials, including, among others, the following:

Time needed for regulatory approval;

Number of patients and costs per patient in the clinical trial program;

Complexity and cost of project management, data collection and data management services provided by outside vendors;  
and

Unanticipated adverse safety and efficacy results from the pre-clinical or clinical trials.

We test our potential product candidates in numerous pre-clinical studies to identify disease indications for which they may be product candidates. We may conduct multiple clinical trials to cover a variety of indications for each product candidate. As we obtain results from trials, we may elect to discontinue clinical trials for certain product candidates or for certain indications in order to focus on more promising product candidates or indications.

### **General and Administrative Expenses**

General and administrative expenses, which consist primarily of salaries, benefits, outside professional services and related costs associated with our executive, finance and accounting, business development, marketing, human resources, legal and corporate communications activities, were \$6.0 million for the year ended December 31, 2002 as compared to \$5.5 million for the year ended December 31, 2001. The increase in 2002 of \$495,000 was primarily due to increased MS-325 marketing costs and personnel costs. General and administrative expenses also included royalties payable to MGH based on sales by Bracco of MultiHance®. Royalty expenses totaled \$74,000 and \$103,000 for the years ended December 31, 2002 and 2001, respectively.

### **Interest Income and Interest Expense**

Interest income for the year ended December 31, 2002 was \$1.1 million as compared to \$1.0 million for the year ended December 31, 2001. The increase of approximately \$100,000 was primarily due to realized gains from the sale of marketable securities and higher average levels of invested cash, cash equivalents and marketable securities, partly offset by lower interest rates. Net realized gains on marketable securities, which are included in interest income, were \$156,000 for the year ended December 31, 2002 as compared to none for year the ended December 31, 2001. Interest expense for the year ended December 31, 2002 was \$362,000 as compared to \$339,000 for the year ended December 31, 2001. This increase in interest expense in 2002 was the result of a full year of interest paid to Bracco under the Bracco agreement.

### **Provision for Income Taxes**

The provision for income taxes, which represents Italian income taxes related to the Bracco agreement, was \$94,000 for the year ended December 31, 2002 as compared to \$1.1 million for the year ended December 31, 2001. The higher foreign income tax expense in 2001 of approximately \$1.0 million is directly attributable to the receipt of \$10.0 million from Bracco in September 2001 upon the execution of the worldwide license agreement with Bracco. Any future payments received from Bracco are subject to Italian income tax withholding.

42

---

## **Years ended December 31, 2001 and 2000**

### **Revenues**

Revenues for the years ended December 31, 2001 and 2000 were \$9.6 million and \$6.9 million, respectively. Revenues for 2001 consisted of \$5.8 million of product development revenue from Schering AG, \$2.1 million of royalty and license fee revenue related to the Bracco agreement and \$1.7 million of license fee revenue related to the Schering AG and Tyco strategic collaboration agreements for the development and marketing of MS-325. The increase in revenues is a result of \$2.1 million related to the Bracco agreement and \$600,000 in license fee revenue associated with granting Schering AG the rights to market MS-325 in Japan.

### **Research and Development Expenses**

Research and development expenses for the year ended December 31, 2001 were \$22.9 million as compared to \$25.8 million for 2000. In the year 2000, a one-time charge of \$4.9 million was included in research and development expenses, which related to the reacquisition of the Japanese rights to develop and commercialize MS-325 from Daiichi, causing an overall decrease in research and development expenses from 2000 to 2001. Excluding this one-time charge in 2000, research and development expenses increased \$2.0 million from 2000 to 2001 primarily due to increased costs for personnel and other resources to support research and development of the Company's thrombus imaging program and higher costs associated with advancing MS-325 through clinical trials.

### **General and Administrative Expenses**

General and administrative expenses for the year ended December 31, 2001 were \$5.5 million as compared to \$4.8 million for 2000. General and administrative expenses increased \$670,000 during 2001 as compared to 2000 primarily as a result of ongoing corporate activities, royalty expense associated with the Bracco agreement and increased personnel and related expenses.

### **Interest Income and Interest Expense**

Interest income for the year ended December 31, 2001 was \$1.0 million as compared to \$1.3 million for 2000. The \$300,000 decrease was primarily due to lower interest rates during 2001 compared to 2000 offset by higher average cash, cash equivalent and marketable securities balances in 2001 as compared to 2000. Interest expense for the year ended December 31, 2001 was \$339,000 as compared to \$468,000 in 2000. The \$129,000 decrease was attributable to lower interest rates in the year ended December 31, 2001 along with lower interest expense associated with our decreasing capital lease obligation and the repayment of our note payable. This decrease was offset by increased interest expense associated with the Bracco agreement.

### **Provision for Income Taxes**

The provision for income taxes of \$1.1 million for the year ended December 31, 2001 represents Italian income taxes related to the Bracco agreement signed in September 2001 which we are unable to offset against net operating losses. There was no provision for income taxes recorded in 2000.

## Liquidity and Capital Resources

Our principal sources of liquidity consist of cash, cash equivalents and available-for-sale marketable securities of \$28.1 million at December 31, 2002.

On January 18, 2002, we raised \$30.1 million through the issuance and sale of 2.575 million shares of our common stock pursuant to our previously filed shelf registration statement. In September 2000, we entered into an agreement with Acqua Wellington North American Equities Fund Ltd., or Acqua

43

---

Wellington, for an equity financing facility. During 2001, we received \$8,666,346 and in 2000, we received \$885,397 in net proceeds using this facility. This equity financing facility was terminated in January 2002, in accordance with the terms of the equity financing facility agreement, as a result of our sale of all of the remaining shares available on our then available S-3 shelf registration statement. Acqua Wellington did not purchase any shares in the January 2002 offering.

We used approximately \$24.0 million of net cash to fund operations for the year ended December 31, 2002 compared to \$7.6 million to fund operations for the year ended December 31, 2001. For the year ended December 31, 2002, net cash used for operating activities was primarily attributable to our net loss of \$22.2 million. Excluding the \$9.0 million we received from Bracco in September 2001, we used \$16.6 million of cash for operations for the year ended December 31, 2001.

Our investing activities resulted in net cash used of \$13.1 million for the year ended December 31, 2002 and net cash provided of \$12.2 million for the year ended December 31, 2001. For the year ended December 31, 2002, we purchased \$42.4 million of available-for-sale marketable securities. A majority of the funds used for these purchases were derived from the proceeds of the common stock offering completed on January 18, 2002. We also received proceeds of \$30.3 million as a result of investment sales and redemptions. Other investing activities included capital expenditures of \$1.1 million for the year ended December 31, 2002, and \$698,000 for the year ended December 31, 2001. Our capital expenditures consist primarily of purchases of property and equipment, including lab equipment, computer equipment and software. We expect that our capital expenditures will increase in the future as we continue to enhance and expand our principal lab space.

Cash provided by financing activities was \$28.0 million for the year ended December 31, 2002 and \$8.6 million for the year ended December 31, 2001. The principal source of financing for the year ended December 31, 2002 was the issuance and sale of 2.575 million shares of our common stock pursuant to our previously filed shelf registration statement in January 2002, which resulted in net proceeds to us of \$30.1 million. Partly offsetting some of the cash provided from financing activities was the repayment of the \$3.0 million outstanding loan with Tyco in October 2002.

We currently receive quarterly cash payments from Schering AG for their share of development costs of MS-325, quarterly royalty payments from Bracco on their sales of MultiHance® and interest income earned on our cash, cash equivalents and available-for-sale marketable securities. In the future, we may also obtain funding from collaborations for our thrombus program or for other research activities or from a sale of shares of our common stock pursuant to our effective shelf registration statement filed with the SEC in March 2002, whereby we registered 5 million shares of our common stock. Additional future cash flows depend on the successful filing of an NDA, FDA approval and product launch of MS-325, and include up to \$27.0 million in milestone payments from Schering AG and our share of the profits earned on sales of MS-325 worldwide. We may also receive royalties on sales of Schering AG's Eovist product if it is approved for sale by the FDA or international regulatory authorities pursuant to a license agreement with Schering AG.

Known outflows, in addition to our ongoing research and development and general and administrative expenses, include the semi-annual royalties that we owe to MGH on sales by Bracco of MultiHance®, and \$2.4 million we owe Daiichi in December 2003 under the terms of our reacquisition agreement with Daiichi. Other potential future outflows depend on the successful filing of an NDA, FDA approval and product launch of MS-325, which include \$5.0 million of milestone payments due Tyco, a share of profits due Tyco on sales of MS-325 worldwide except Japan, a royalty to Daiichi on sales of MS-325 in Japan and a royalty due MGH on our share of the profits of MS-325 worldwide. We will also be required to repay Bracco any unearned prepaid royalties, equaling \$3.0 million at December 31, 2002, upon termination of our license agreement with Bracco, plus an additional \$3.0 million if MultiHance® does not receive FDA approval in the U.S. In November 2002, Bracco announced that it had received an approvable letter from the FDA for MultiHance®.

44

---

## Edgar Filing: EPIX MEDICAL INC - Form 10-K

We estimate that cash, cash equivalents and marketable securities on hand as of December 31, 2002 will be sufficient to fund our operations into the first quarter of 2004. We believe that we will need to raise additional funds for research, development and other expenses through equity or debt financing, strategic alliances or otherwise, in order to achieve commercial introduction of any of our product candidates. We anticipate that our development expenses for MS-325 will decrease significantly as a result of our having completed enrollment in our Phase III clinical trial program in the first quarter of 2003. In the absence of additional fundraising, in order to fund our operations into the second quarter of 2004, we would need to curtail our research programs, our thrombus program and significantly reduce operating expenses. We believe that program curtailment and operating expense reductions along these lines can be carried out without impacting our plans for submitting the NDA for MS-325. Our future liquidity and capital requirements will depend on numerous factors, including the following: the progress and scope of clinical trials; the timing and costs of filing future regulatory submissions; the timing and costs required to receive both United States and foreign governmental approvals; the cost of filing, prosecuting, defending and enforcing patent claims and other intellectual property rights; the extent to which our products, if any, gain market acceptance; the timing and costs of product introductions; the extent of our ongoing research and development programs; the costs of training physicians to become proficient with the use of our potential products; and, if necessary, once regulatory approvals are received, the costs of developing marketing and distribution capabilities.

Because of anticipated spending to support new research programs as well as the continued development of MS-325 and thrombus we do not expect positive cash flow from operating activities for any future quarterly or annual period prior to commercialization of MS-325. Our ability to reach positive cash flow subsequent to the commercialization of MS-325 will depend on its market acceptance and successful launch by our partner Schering AG, as well as the ability of our partner Tyco to manufacture sufficient quantities of MS-325 to support Schering AG's sales and marketing activities. We anticipate continued investments in fixed assets, including equipment and facilities expansion to support new and continuing research and development programs. In the second quarter of 2002, we signed a lease agreement that increased our future lease commitments by \$3.4 million that will enable us to utilize our current principal scientific facilities through December 31, 2007. We also have a lease for nearby office space, which expires in October 2003.

Our major outstanding contractual obligations relate to our facilities leases and our present obligations to strategic partners. We did not include any commitments for obligations due on our commercial clinical trial programs since most of our commercial contracts contain termination clauses, exercisable by either party, which limit potential future obligations.

Below is a table that represents our contractual obligations and commercial commitments as of December 31, 2002:

	Payments due by period				
	Total	2003	2004	2005	2006 & beyond
Operating leases	\$ 4,555,783	\$ 1,515,274	\$ 823,105	\$ 746,184	\$ 1,471,220
Accrued reacquisition costs	2,400,000	2,400,000			
	\$ 6,955,783	\$ 3,915,274	\$ 823,105	\$ 746,184	\$ 1,471,220

We have incurred tax losses to date and therefore have not paid significant federal or state income taxes since inception. As of December 31, 2002, we had net operating loss carryforwards of approximately \$98 million available to offset future taxable income. These amounts expire at various times through 2022. As a result of ownership changes resulting from sales of equity securities, our ability to use the net operating loss carryforwards is subject to limitations as defined in Sections 382 and 383 of the Internal Revenue Code of 1986, or the Code, as amended. We currently estimate that the annual limitation on our use of net operating losses through May 31, 1996 will be approximately

\$900,000. Pursuant to Sections 382 and 383 of the Code, the change in ownership resulting from public equity offerings in 1997 and any other future ownership changes may further limit utilization of losses and credits in any one year. We also are eligible for research and development tax credits that can be carried forward to offset federal taxable income. The annual limitation and the timing of attaining profitability may result in the expiration of net operating loss and tax credit carryforwards before utilization.

### Certain Factors That May Affect Future Results of Operations

This report contains certain forward-looking statements as that term is defined in the Private Securities Litigation Reform Act of 1995. Such statements are based on management's current expectations and are subject to a number of factors and uncertainties, which could cause actual results to differ materially from those described in the forward-looking statements. We caution investors that there can be no assurance that actual results or business conditions will not differ materially from those projected or suggested in such forward-looking statements as a

## Edgar Filing: EPIX MEDICAL INC - Form 10-K

result of various factors, including, but not limited to, the following: the uncertainties associated with pre-clinical studies and clinical trials; the early stage of our initial product development and lack of product revenues; our history of operating losses and accumulated deficit; our lack of commercial manufacturing experience and commercial sales, distribution and marketing capabilities; reliance on suppliers of key materials necessary for production of our products and technologies; the potential development by competitors of competing products and technologies; our dependence on existing and potential collaborative partners, and the lack of assurance that we will receive any funding under such relationships to develop and maintain strategic alliances; the lack of assurance regarding patent and other protection for our proprietary technology; governmental regulation of our activities, facilities, products and personnel; the dependence on key personnel; uncertainties as to the extent of reimbursement for the costs of our potential products and related treatments by government and private health insurers and other organizations; the potential adverse impact of government-directed health care reform; the risk of product liability claims; and economic conditions, both generally and those specifically related to the biotechnology industry. As a result, our future development efforts involve a high degree of risk. For further information, refer to the more specific risks and uncertainties discussed throughout this Annual Report on Form 10-K.

### ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

The objective of our investment activities is to preserve principal, while at the same time maximizing yields without significantly increasing risk. To achieve this objective, in accordance with our investment policy, we invest our cash in a variety of financial instruments, principally restricted to United States government issues, high-grade bank obligations, high-grade corporate bonds and certain money market funds. These investments are denominated in U.S. dollars.

Investments in both fixed rate and floating rate interest earning instruments carry a degree of interest rate risk. Fixed rate securities may have their fair market value adversely impacted due to a rise in interest rates, while floating rate securities may produce less income than expected if interest rates fall. Due in part to these factors, our future investment income may fall short of expectations due to changes in interest rates or we may suffer losses in principal if forced to sell securities that have seen a decline in market value due to changes in interest rates. A hypothetical 10% increase or decrease in interest rates would result in a decrease in the fair market value of our total portfolio of approximately \$19,500, and an increase of approximately \$20,000, respectively, at December 31, 2002.

The interest rate of our agreement with Bracco S.p.A. is adjustable on a quarterly basis and therefore subjects the Company to interest rate risk. However, based on the outstanding balance of \$4,000,000, a portion of total deferred revenue, and an interest rate of 5.25% (prime plus 1%) at December 31, 2002, a 10% increase in the prime rate would increase the Company's annual interest expense by approximately \$21,000.

46

---

### ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

	<u>Number</u>
Index to Financial Statements	F-1
Report of Independent Auditors.	F-2
Financial Statements:	
Balance Sheets	F-3
Statements of Operations	F-4
Statements of Stockholders' (Deficit) Equity	F-5
Statements of Cash Flows	F-6
Notes to Consolidated Financial Statements	F-7

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

None

## PART III

### ITEM 10. DIRECTORS AND EXECUTIVE OFFICERS OF THE REGISTRANT

The information required under this item is incorporated herein by reference to the section entitled "Management" in our definitive Proxy Statement for our 2003 Annual Meeting of Stockholders (2003 Proxy Statement) to be filed with the Commission not later than April 30, 2003.

**ITEM 11. EXECUTIVE COMPENSATION**

The information required under this item is incorporated herein by reference to the section entitled "Executive Compensation" in the 2003 Proxy Statement.

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

The information required under this item is incorporated herein by reference to the section entitled "Security Ownership of Certain Beneficial Owners and Management" in the 2003 Proxy Statement.

**ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS**

The information required under this item is incorporated herein by reference to the section entitled "Certain Relationships and Related Transactions" in the 2003 Proxy Statement.

**ITEM 14. CONTROLS AND PROCEDURES**

(a) *Evaluation of Disclosure Controls and Procedures.* Our principal executive officer and principal financial officer, after evaluating the effectiveness of our disclosure controls and procedures (as defined in Exchange Act Rules 13a-14(c) and 15d-14(c)) as of a date within 90 days of the filing date of this Annual Report on Form 10-K, have concluded that, based on such evaluation, our disclosure controls and procedures were adequate and effective to ensure that material information relating to us, including our consolidated subsidiaries, was made known to them by others within those entities, particularly during the period in which this Annual Report on Form 10-K was being prepared.

(b) *Changes in Internal Controls.* There were no significant changes in our internal controls or in other factors that could significantly affect these controls subsequent to the date of their evaluation,

47

---

nor were there any significant deficiencies or material weaknesses in our internal controls. Accordingly, no corrective actions were required or undertaken.

**PART IV**

**ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES AND REPORTS ON FORM 8-K**

**Item 15(a).**

The following documents are filed as part of this Annual Report on Form 10-K

**Item 15(a) (1) and (2).**

See "Index to Financial Statements" at Item 8 to this Annual Report on Form 10-K. Other financial statement schedules have not been included because they are not applicable or the information is included in the financial statements or notes thereto.

**Item 15(a) (3). Exhibits.**

The following is a list of exhibits filed as part of this Annual Report on Form 10-K.

<b>Exhibit Number</b>	<b>Description</b>
3.1@	Restated Certificate of Incorporation of the Company. Filed as Exhibit 4.1 to the Company's Registration Statement on Form S-8 (File No. 333-30531) and incorporated herein by



## Edgar Filing: EPIX MEDICAL INC - Form 10-K

Exhibit Number	Description
	reference.
3.2@	Certificate of Amendment of Restated Certificate of Incorporation of the Company. Filed as Exhibit 3.2 to the Company's Annual Report on Form 10-K for the year ended December 31, 2002 (File No. 000-21863) and incorporated herein by reference.
3.3@	Form of Amended and Restated By-Laws of the Company. Filed as Exhibit 4.2 to the Company's Registration Statement on Form S-8 (File No. 333-30531) and incorporated herein by reference.
4.1@	Specimen certificate for shares of Common Stock of the Company. Filed as Exhibit 4.1 to the Company's Registration Statement on Form S-1 (File No. 333-17581) and incorporated herein by reference.
10.1@	Short Form Lease from Trustees of the Cambridge East Trust to the Company dated July 1, 1992. Filed as Exhibit 10.3 to the Company's Registration Statement on Form S-1 (File No. 333-17581) and incorporated herein by reference.
10.2@	First Amendment Lease From Trustees of the Cambridge East Trust to the Company dated October 20, 1993. Filed as Exhibit 10.8 to the Company's Registration Statement on Form S-1 (File No. 333-17581) and incorporated herein by reference.
10.3@	Second Amendment Lease From Trustees of the Cambridge East Trust to the Company dated September 17, 1994. Filed as Exhibit 10.12 to the Company's Registration Statement on Form S-1 (File No. 333-17581) and incorporated herein by reference.
10.4@+	Amended and Restated License Agreement between the Company and The General Hospital Corporation dated July 10, 1995. Filed as Exhibit 10.14 to the Company's Registration Statement on Form S-1 (File No. 333-17581) and incorporated herein by reference.
10.5@	Third Amendment Lease From Trustees of the Cambridge East Trust to the Company dated May 1, 1996. Filed as Exhibit 10.20 to the Company's Registration Statement on Form S-1 (File No. 333-17581) and incorporated herein by reference.

48

10.6@	Third Amended and Restated Stockholders' Rights Agreement by and among the Company and certain of its stockholders named therein-dated May 29, 1996. Filed as Exhibit 10.22 to the Company's Registration Statement on Form S-1 (File No. 333-17581) and incorporated herein by reference.
10.7@	Amendment No. 1 to Third Amended and Restated Stockholders' Rights Agreement dated May 31, 1996. Filed as Exhibit 10.24 to the Company's Registration Statement on Form S-1 (File No. 333-17581) and incorporated herein by reference.
10.8@	Amendment No. 2 to Third Amended and Restated Stockholders' Rights Agreement dated December 6, 1996. Filed as Exhibit 10.27 to the Company's Registration Statement on Form S-1 (File No. 333-17581) and incorporated herein by reference.
10.9@#	Amended and Restated 1992 Equity Incentive Plan. Filed as Exhibit 99.2 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2002 (File No. 000-21863) and incorporated herein by reference.
10.10@#	Form of Incentive Stock Option Certificate. Filed as Exhibit 10.29 to the Company's Registration Statement on Form S-1 (File No. 333-17581) and incorporated herein by reference.
10.11@	Form of Nonstatutory Stock Option Certificate. Filed as Exhibit 10.30 to the Company's Registration Statement on Form S-1 (File No. 333-17581) and incorporated herein by reference.
10.12@#	Amended and Restated 1996 Employee Stock Purchase Plan. Filed as Appendix D to the Company's 2001 Definitive Proxy Statement on Schedule 14A (File No. 000-21863) and incorporated herein by reference.
10.13@#	Amended and Restated 1996 Director Stock Option Plan. Filed as Appendix C to the Company's 2001 Definitive Proxy Statement on Schedule 14A (File No. 000-21863) and incorporated herein by reference.
10.14@	Short Form Lease from Trustees of the Cambridge Trust to the Company with a commencement date of January 1, 1998. Filed as Exhibit 10.39 to the Company's Registration Statement on Form S-1 (File No. 333-38399) and incorporated herein by reference.
10.15@	Sublease dated as of October 31, 1997 between the Company and SatCon Technology Corporation. Filed as Exhibit 10.40 to the Company's Annual Report on Form 10-K for the year ended December 31, 1998 (File No. 000-21863) and incorporated herein by reference.

## Edgar Filing: EPIX MEDICAL INC - Form 10-K

- 10.16@ First Amendment to Sublease dated as of July 15, 1998 between the Company and SatCon Technology Corporation. Filed as Exhibit 10.41 to the Company's Annual Report on Form 10-K for the year ended December 31, 1998 (File No. 000-21863) and incorporated herein by reference.
- 10.17@ First Amendment dated February 8, 1999 to the Short Form Lease dated as of July 7, 1998 with a commencement date as of January 1, 1998 between the Company and the Trustees of The Cambridge East Trust. Filed as Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the period ended March 31, 1999 (File No. 000-21863) and incorporated herein by reference.
- 10.18@ Sublease extension election for an additional three years, beginning January 1, 2000 and ending December 31, 2002 pursuant to Article 5 of the First Amendment to Sublease dated as of July 15, 1998 between the Company and SatCon Technology Corporation. Filed as Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the period ended June 30, 1999 (File No. 000-21863) and incorporated herein by reference.

49

- 
- 10.19@ Second Amendment dated June 30, 2000 to the Short Form Lease dated as of July 7, 1998 with a commencement date as of January 1, 1998 between the Company and the Trustees of The Cambridge East Trust. Filed as Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the period ended June 30, 2000 and incorporated herein by reference.
- 10.20@++ Amended and Restated Strategic Collaboration Agreement dated June 9, 2000, among the Company, Tyco/Mallinckrodt Inc. (a Delaware corporation) and Tyco/Mallinckrodt Inc. (a New York corporation). Filed as Exhibit 10.1 to the Company's Current Report on Form 8-K dated June 29, 2000 (File No. 000-21863) and incorporated herein by reference.
- 10.21@++ Strategic Collaboration Agreement dated as of June 9, 2000, between the Company and Schering Aktiengesellschaft. Filed as Exhibit 10.2 to the Company's Current Report on Form 8-K dated June 29, 2000 (File No. 000-21863) and incorporated herein by reference.
- 10.22@ Stock Purchase Agreement, dated as of June 9, 2000, between the Company and Schering Berlin Venture Corporation. Filed as Exhibit 10.3 to the Company's Current Report on Form 8-K dated June 29, 2000 (File No. 000-21863) and incorporated herein by reference.
- 10.23@ Standstill Agreement, dated as of June 9, 2000, between the Company and Schering Berlin Venture Corporation. Filed as Exhibit 10.4 to the Company's Current Report on Form 8-K dated June 29, 2000 (File No. 000-21863) and incorporated herein by reference.
- 10.24@++ Reacquisition Agreement dated December 22, 2000 between the Company and Daiichi Radioisotope Laboratories, Ltd. Filed as Exhibit 10.32 to the Company's Annual Report on Form 10-K for the year ended December 31, 2000 (File No. 000-21863) and incorporated herein by reference.
- 10.25@ Amendment No. 1 dated as of December 22, 2000 to the Strategic Collaboration agreement, dated as of June 9, 2000, between the Company and Schering Aktiengesellschaft. Filed as Exhibit 10.33 to the Company's Annual Report on Form 10-K for the year ended December 31, 2000 (File No. 000-21863) and incorporated herein by reference.
- 10.26@++ Worldwide License Agreement, dated as of September 25, 2001, by and between the Company and Bracco Imaging S.p.A. filed as Exhibit 10.1 to the Company's current report on Form 8-K dated September 25, 2001 (File No. 000-21863) and incorporated herein by reference.
- 10.27@ Settlement and Release Agreement dated as of September 25, 2001, by and between the Company and Bracco Imaging S.p.A. filed as Exhibit 10.2 to the Company's Current Report on Form 8-K dated September 25, 2001 (File No. 000-21863) and incorporated herein by reference.
- 10.28@ Third Amendment, dated May 21, 2002, to the Short Form Lease dated as of July 7, 1998 with a commencement date as of January 1, 1998 between the Company and the Trustees of the Cambridge East Trust. Filed as Exhibit 10.31 to the Company's Quarterly Report for the period ended June 30, 2002 (File No. 000-21863) and incorporated herein by reference.
- 10.29\* Second Amendment, dated December 31, 2002, to Sublease dated as of October 31, 1997 between the Company and SatCon Technology Corporation. Filed herewith.
- 23.1\* Consent of Ernst & Young LLP. Filed herewith.

@

Incorporated by reference as indicated.



Edgar Filing: EPIX MEDICAL INC - Form 10-K

Signature	Title	Date
/s/ STANLEY T. CROOKE, M.D., PH.D	Director	March 28, 2003
Stanley T. Crooke, M.D., Ph.D		
/s/ PETER WIRTH	Director	March 28, 2003
Peter Wirth		
/s/ RANDALL B. LAUFFER, PH.D	Director	March 28, 2003
Randall B. Lauffer, Ph.D		

52

**EPIX MEDICAL, INC.**

**INDEX TO FINANCIAL STATEMENTS**

Report of Independent Auditors	F-2
Financial Statements	
Balance Sheets	F-3
Statements of Operations	F-4
Statements of Stockholders' (Deficit) Equity	F-5
Statements of Cash Flows	F-6
Notes to Financial Statements	F-7
	F-1

**REPORT OF INDEPENDENT AUDITORS**

Board of Directors and Stockholders  
EPIX Medical, Inc.

We have audited the accompanying balance sheets of EPIX Medical, Inc. as of December 31, 2002 and 2001, and the related statements of operations, stockholders' (deficit) equity, and cash flows for each of the three years in the period ended December 31, 2002. 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 audits.

We conducted our audits in accordance with auditing standards generally accepted in the 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 financial statements referred to above present fairly, in all material respects, the financial position of EPIX Medical, Inc. at December 31, 2002 and 2001, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2002, in conformity with accounting principles generally accepted in the United States.

/s/ Ernst & Young LLP

Boston, Massachusetts  
February 12, 2003

## EPIX MEDICAL, INC.

## BALANCE SHEETS

	December 31,	
	2002	2001
<b>ASSETS</b>		
Current assets:		
Cash and cash equivalents	\$ 4,540,444	\$ 13,609,883
Available-for-sale marketable securities	23,571,565	11,355,785
Royalties receivable	175,132	96,948
Prepaid expenses and other assets	516,199	491,702
<b>Total current assets</b>	<b>28,803,340</b>	<b>25,554,318</b>
Property and equipment, net	1,292,802	1,243,842
Other assets	59,088	112,533
<b>Total assets</b>	<b>\$ 30,155,230</b>	<b>\$ 26,910,693</b>
<b>LIABILITIES AND STOCKHOLDERS' (DEFICIT) EQUITY</b>		
Current liabilities:		
Accounts payable	\$ 1,894,561	\$ 1,431,013
Accrued expenses	6,403,927	4,981,255
Contract advances	3,132,071	5,169,953
Accrued reacquisition costs	2,400,000	
Current portion of capital lease obligations		78,760
Loan payable to strategic partner		3,004,607
Deferred revenue	2,609,127	2,611,961
<b>Total current liabilities</b>	<b>16,439,686</b>	<b>17,277,549</b>
Accrued reacquisition costs, less current portion		2,400,000
Deferred revenue	7,829,029	10,443,636
Stockholders' (deficit) equity:		
Preferred Stock, \$0.01 par value, 1,000,000 shares authorized; no shares issued and outstanding		
Common stock, \$.01 par value, 40,000,000 shares authorized at December 31, 2002 and 2001, 17,074,034 and 14,238,087 shares issued and outstanding at December 31, 2002 and 2001, respectively	170,740	142,381
Additional paid-in-capital	119,712,094	88,620,094
Accumulated deficit	(114,157,964)	(91,966,743)
Accumulated other comprehensive income (loss)	161,645	(6,224)
<b>Total stockholders' equity (deficit)</b>	<b>5,886,515</b>	<b>(3,210,492)</b>
<b>Total liabilities and stockholders' equity</b>	<b>\$ 30,155,230</b>	<b>\$ 26,910,693</b>

December 31,

See accompanying notes.

F-3

## EPIX MEDICAL, INC.

## STATEMENTS OF OPERATIONS

	Year ended December 31,		
	2002	2001	2000
<b>Revenues:</b>			
Product development revenue	\$ 8,715,974	\$ 5,720,148	\$ 5,832,841
Royalty revenue	1,560,144	2,052,397	
License fee revenue	1,993,383	1,796,170	1,090,909
<b>Total revenues</b>	<b>12,269,501</b>	<b>9,568,715</b>	<b>6,923,750</b>
<b>Operating expenses:</b>			
Research and development	29,084,469	22,903,780	25,833,243
General and administrative	6,001,099	5,505,807	4,835,160
<b>Total operating expenses</b>	<b>35,085,568</b>	<b>28,409,587</b>	<b>30,668,403</b>
Operating loss	(22,816,067)	(18,840,872)	(23,744,653)
Interest income	1,080,561	1,023,659	1,256,323
Interest expense	(362,058)	(339,204)	(468,277)
<b>Loss before provision for income taxes</b>	<b>(22,097,564)</b>	<b>(18,156,417)</b>	<b>(22,956,607)</b>
Provision for income taxes	93,657	1,091,606	
<b>Loss before cumulative effect of change in accounting principle</b>	<b>\$ (22,191,221)</b>	<b>\$ (19,248,023)</b>	<b>\$ (22,956,607)</b>
Cumulative effect of change in accounting principle			(4,363,636)
<b>Net loss</b>	<b>\$ (22,191,221)</b>	<b>\$ (19,248,023)</b>	<b>\$ (27,320,243)</b>
<b>Weighted average shares:</b>			
Basic and diluted	16,878,036	14,007,165	12,444,622
<b>Net loss per share, basic and diluted:</b>			
Loss before cumulative effect of change in accounting principle	\$ (1.31)	\$ (1.38)	\$ (1.85)
Cumulative effect of change in accounting principle			(0.35)
<b>Net loss</b>	<b>\$ (1.31)</b>	<b>\$ (1.38)</b>	<b>\$ (2.20)</b>

Edgar Filing: EPIX MEDICAL INC - Form 10-K

Year ended December 31,

Pro forma amounts assuming the accounting change is applied retroactively:

Net loss	\$	\$	\$ (22,956,607)
Net loss per share, basic and diluted	\$	\$	\$ (1.85)

See accompanying notes.

F-4

EPIX MEDICAL, INC.

STATEMENTS OF STOCKHOLDERS' (DEFICIT) EQUITY

	Common Stock		Additional Paid-In-Capital	Stockholder Loans	Accumulated Deficit	Accumulated Other Comprehensive Income/(Loss)	Total Stockholders' (Deficit) Equity
	Shares	Amount					
Balance at December 31, 1999	11,680,315	\$ 116,803	\$ 56,520,680	\$ (387,430)	\$ (45,398,477)	\$ (87,647)	10,763,929
Issuance of common stock upon exercise of options	332,803	3,328	1,615,179				1,618,507
Issuance of common stock under employee stock purchase plan	14,708	147	120,018				120,165
Issuance of common stock	1,176,165	11,762	20,873,635				20,885,397
Compensatory stock option loan expense			15,400				15,400
Repayment of stock option loans				387,430			387,430
Net loss					(27,320,243)		(27,320,243)
Available-for-sale marketable securities unrealized gain						94,918	94,918
Comprehensive loss							(27,225,325)
Balance at December 31, 2000	13,203,991	132,040	79,144,912		(72,718,720)	7,271	6,565,503
Issuance of common stock upon exercise of options	98,266	983	363,366				364,349
Issuance of common stock under employee stock purchase plan	18,822	188	152,870				153,058
Issuance of common stock	917,008	9,170	8,657,176				8,666,346
Compensatory stock option expense			301,770				301,770
Net loss					(19,248,023)		(19,248,023)
Available-for-sale marketable securities unrealized loss						(13,495)	(13,495)
Comprehensive loss							(19,261,518)
Balance at December 31, 2001	14,238,087	142,381	88,620,094		(91,966,743)	(6,224)	(3,210,492)

Edgar Filing: EPIX MEDICAL INC - Form 10-K

	Common Stock			Accumulated Other Comprehensive Income/(Loss)	Total Stockholders' (Deficit) Equity
Issuance of common stock upon exercise of options		2,304	919,184		921,488
Issuance of common stock under employee stock purchase plan	230,366	127	92,778		92,905
Issuance of common stock for warrants	17,848	178	(178)		
Issuance of common stock	2,575,000	25,750	30,080,216		30,105,966
Net loss				(22,191,221)	(22,191,221)
Available-for-sale marketable securities unrealized gain				167,869	167,869
<b>Comprehensive loss</b>					<b>(22,023,352)</b>
Balance at December 31, 2002	17,074,034	\$ 170,740	\$ 119,712,094	\$ (114,157,964)	\$ 161,645
					\$ 5,886,515

See accompanying notes.

F-5

EPIX MEDICAL, INC.

STATEMENTS OF CASH FLOWS

	Year Ended December 31,		
	2002	2001	2000
<b>Operating activities:</b>			
Net loss	\$ (22,191,221)	\$ (19,248,023)	\$ (27,320,243)
<b>Adjustments to reconcile net loss to net cash used in operating activities:</b>			
Cumulative effect of change in accounting principle			4,363,636
Depreciation and amortization	1,014,106	915,177	938,839
Stock compensation expense		301,770	15,400
<b>Changes in operating assets and liabilities:</b>			
Due from strategic partner		3,000,000	519,757
Royalties receivable	(78,184)	(96,948)	
Prepaid expenses and other current assets	(24,497)	(120,384)	323,854
Notes receivable from officer			356,159
Other long term assets	53,445	22,419	(18,843)
Accounts payable	463,548	(369,033)	26,834
Accrued expenses	1,422,672	1,303,422	1,697,209
Accrued reacquisition costs		(2,800,000)	5,200,000
Contract advances	(2,037,882)	2,707,613	2,153,385
Deferred revenue	(2,617,441)	6,782,870	(1,090,909)
Receipt of cash from Schering AG for marketing rights			10,000,000
Disbursement of cash to Tyco/Mallinckrodt for marketing rights			(10,000,000)
<b>Net cash used in operating activities</b>	<b>(23,995,454)</b>	<b>(7,601,117)</b>	<b>(12,834,922)</b>
<b>Investing activities:</b>			
Purchases of fixed assets	(1,063,066)	(697,576)	(342,000)



Edgar Filing: EPIX MEDICAL INC - Form 10-K

Year Ended December 31,

Purchases of marketable securities	(42,379,684)	(188,438,532)	(522,346,251)
Sale or redemption of marketable securities	30,331,773	201,379,505	511,840,896
Net cash provided by (used in) investing activities	(13,110,977)	12,243,397	(10,847,355)
Financing activities:			
Repayment of capital lease obligations	(78,760)	(244,988)	(379,911)
(Repayment of)/proceeds from loan payable from strategic partner	(3,004,607)		1,421,050
Repayment of note payable		(373,783)	(397,864)
Proceeds from repayment of stock option loan and related interest			387,430
Proceeds from Employee Stock Purchase Plan	92,905	153,058	120,165
Proceeds from stock options and warrants	921,488	364,349	1,618,507
Proceeds from sale of common stock	30,105,966	8,666,346	20,885,397
Net cash provided by financing activities	28,036,992	8,564,982	23,654,774
Net increase (decrease) in cash and cash equivalents	(9,069,439)	13,207,262	(27,503)
Cash and cash equivalents at beginning of period	13,609,883	402,621	430,124
Cash and cash equivalents at end of period	\$ 4,540,444	\$ 13,609,883	\$ 402,621
Supplemental cash flow information:			
Cash paid for interest	\$ 453,135	\$ 344,452	\$ 468,279
Cash paid for taxes	\$ 86,109	\$ 1,044,544	\$

See accompanying notes.

F-6

EPIX MEDICAL, INC.

NOTES TO FINANCIAL STATEMENTS

December 31, 2002

1. Business

EPIX Medical, Inc. ("EPIX" or the "Company") was formed on November 29, 1988 as a Delaware corporation and commenced operations in 1992. The Company is developing targeted contrast agents both to improve the capability and expand the use of magnetic resonance imaging ("MRI") as a tool for diagnosing human disease. The Company's principal product under development, MS-325, is an injectable vascular contrast agent designed for multiple vascular imaging indications, including peripheral vascular disease and coronary artery disease.

As the Company continues to develop its products, the Company will need significant amounts of additional capital. The Company believes that cash, cash equivalents and marketable securities on hand as of December 31, 2002 will be sufficient to fund its operations into the first quarter of 2004. During this period, the Company may seek to raise additional capital through strategic alliances or the issuance of debt or equity securities, the timing of which will depend on contractual negotiations or on market conditions. In the absence of additional fundraising, in order to fund its operations into the second quarter of 2004, the Company will need to curtail its research programs, its thrombus program and significantly reduce operating expenses. The Company believes that program curtailment and operating expense reductions along these lines can be carried out without impacting its plan for submitting the NDA for MS-325. The actual timing and amount of capital requirements may be materially affected by various factors, including the progress and scope of the Company's clinical trials; the timing and costs of filing future

regulatory submissions; the timing and costs required to receive both United States and foreign governmental approvals; the cost of filing, prosecuting, defending and enforcing patent claims and other intellectual property rights; the extent to which the Company's products, if any, gain market acceptance; the timing and costs of potential product introductions; the extent of the Company's ongoing research and development programs; the costs of training physicians to become proficient with the use of the Company's products; and, if necessary, once regulatory approvals are received, the costs of developing marketing and distribution capabilities.

## 2. Significant Accounting Policies

### Cash Equivalents

The Company considers investments with an original maturity of three months or less when purchased to be cash equivalents. Cash equivalents consist of money market accounts.

### Marketable Securities

The Company accounts for marketable securities in accordance with Statement of Financial Accounting Standards No. 115, "*Accounting for Certain Investments in Debt and Equity Securities*" (SFAS 115). SFAS 115 establishes the accounting and reporting requirements for all debt securities and for investments in equity securities that have readily determinable fair values. All marketable securities must be classified as one of the following: held-to-maturity, available-for-sale, or trading. The Company classifies its marketable securities as available-for-sale and, as such, carries the investments at fair value, with unrealized holding gains and losses included in accumulated other comprehensive income (loss).

F-7

---

### Fair Value of Financial Instruments

At December 31, 2002 and 2001, the Company's financial instruments consisted of cash and cash equivalents, available-for-sale marketable securities, a portion of deferred revenue consisting of contract advances, a loan payable to Tyco International, Ltd. ("Tyco") and accrued reacquisition costs. The carrying value of cash equivalents approximates fair value due to their short-term maturities. The carrying value of the available-for-sale marketable securities and loan payable is discussed in Notes 2, 3 and 6, respectively.

### Concentrations of Credit Risk

Financial instruments that potentially subject the Company to concentrations of credit risk primarily consist of cash equivalents and available-for-sale marketable securities. In accordance with the Company's investment policy, marketable securities are principally restricted to United States government issues, high-grade bank obligations, high-grade corporate bonds and certain money market funds. Although the Company had \$28,045,502 of cash, cash equivalents and available-for-sale marketable securities invested with one financial institution as of December 31, 2002, the credit risk exposure of its investments was limited to the debt of various government-sponsored enterprises, such as Federal National Home Association, Federal Farm Credit Bank and the Federal Home Loan Mortgage Corporation.

### Property and Equipment

Property and equipment are recorded at historical cost. Depreciation on laboratory equipment, furniture and fixtures and other equipment is determined using the straight-line method over the estimated useful lives of the related assets, ranging from 3 to 5 years. Leasehold improvements are amortized using the straight-line method over the shorter of the asset life or the remaining life of the lease. Expenditures for maintenance and repairs are charged to expense as incurred; betterments are capitalized. Capital lease obligations and liabilities are recorded at the present value of the future minimum rental payments using interest rates appropriate at the inception of the lease.

### Income Taxes

The Company provides for income taxes under Statement of Financial Accounting Standards ("SFAS") No. 109, "*Accounting for Income Taxes*." Under this method, deferred taxes are recognized using the liability method, whereby tax rates are applied to cumulative temporary differences between carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes are based on when and how they are expected to affect the tax return. A valuation allowance is provided to the extent that there is uncertainty as to the Company's ability to generate sufficient taxable income in the future to realize the benefit from its net deferred tax asset.

### Segment Information

## Edgar Filing: EPIX MEDICAL INC - Form 10-K

SFAS No. 131, "Disclosure about Segments of an Enterprise and Related Information," establishes standards for reporting information regarding operating segments and for related disclosures about

F-8

---

products and services and geographical areas. The Company operates in one business segment, which is the development of targeted contrast agents.

The Company records license fee and royalty revenue from Bracco Imaging S.p.A. ("Bracco") located in Italy. Total revenue from Bracco for the years ended December 31, 2002 and 2001 was \$2.0 million and \$2.2 million, or 16% and 23% of total revenue, respectively.

### Revenue

For the years ended December 31, 2002, 2001 and 2000, one source represented 76%, 66% and 84%, another source represented 16%, 23% and 0% and a third source represented 8%, 11% and 16% of revenues, respectively.

#### *Product development revenue*

In June 2000, the Company entered into a strategic collaboration agreement with Schering AG ("Schering"), whereby, generally, each party to the agreement will share equally in MS-325 costs and profits. Revenue is recognized by the Company at the time it performs research and development activities for which Schering and other collaborators are obligated to reimburse the Company. Schering's product development revenues are recorded net of the Company's portion of Schering's actual or most recent estimate of their MS-325 research and development costs. Payments received by the Company from Schering in advance of EPIX performing research activities are recorded as contract advances.

#### *Royalty revenue*

The Company earns royalty revenues pursuant to its sub-license of certain of its patents to Bracco. Royalty revenues are recognized based on actual revenues as reported by Bracco to the Company as available. Otherwise, the Company estimates royalty revenues based on Bracco's estimates, historical revenues and trends. In connection with the execution of the sub-licensing arrangement in September 2001, Bracco made a \$4.0 million refundable advance royalty payment to the Company, which is accounted for as deferred revenue. This amount is recorded as revenue when royalties are earned, as, according to the agreement, a portion of the royalties earned is credited to the deferred revenue amount and the remaining portion is paid to the Company in cash. The balance of the original \$4.0 million advance royalty at December 31, 2002 and 2001 was \$3.0 million and \$3.6 million, respectively. The patents sub-licensed to Bracco are owned by the Massachusetts General Hospital ("MGH") and have been exclusively licensed to the Company. The Company owes MGH a percentage of all royalties received from its sub-licenses. Royalties paid to MGH are classified as general and administrative expenses in the Statement of Operations.

#### *License fee revenue*

In the fourth quarter of 2000, the Company adopted SEC Staff Accounting Bulletin No. 101, *Revenue Recognition* ("SAB 101") retroactively to January 1, 2000, changing its method of recognizing certain types of revenue. As a result, for the year ended December 31, 2000, the Company recorded a cumulative effect of change in accounting principle in the amount of \$4.4 million, which related to

F-9

---

up-front and milestone fees paid in 1996 and 1997 by Tyco, the Company's previous marketing partner for MS-325. Under the new accounting method, after the adoption of SAB 101, the Company recognizes revenues from non-refundable license fees and milestone payments not specifically tied to a separate earnings process ratably over the period during which the Company has a substantial continuing obligation to perform services under the contract.

In September 2001, the Company sub-licensed certain patents to Bracco and received a \$2.0 million license fee from Bracco. This license fee is included in deferred revenue and is being recorded as revenue ratably from the time of the payment until the expiration of MGH's patent in 2006.

The Company also received a \$3.0 million license fee from Bracco, which is contingent upon Bracco's principal product, MultiHance®, gaining FDA approval in the US. This license fee is included in deferred revenue in the accompanying balance sheet and will be recorded as revenue ratably over the remaining life of the patent related to MultiHance® and beginning on the date of FDA approval. If MultiHance® does

not gain FDA approval, the Company is obligated to repay the \$3.0 million, first as an offset against royalties due, and then in cash to the extent such royalties are insufficient to meet the entire obligation.

#### **Use of Estimates**

The preparation of financial statements in conformity with accounting principles generally accepted in the United States requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

#### **Research and Development Expenses**

Research and development costs, including those associated with technology, licenses and patents, are expensed as incurred. Research and development costs include primarily employee salaries and related costs, third party service costs and consulting expenses.

In order to conduct the clinical trials required for the Company's initial product, MS-325, the Company enters into contracts with vendors who render services over an extended period of time, generally one to three years. Typically, the Company enters into two types of vendor contracts, time-based or patient-based. Under a time based contract, using critical factors contained within the contract such as the stated duration of the contract and the timing of services provided, the Company records the contractual expense for each service provided ratably over the period during which the Company estimates the service will be performed. Under a patient based contract, the Company first determines an appropriate per patient cost using critical factors contained within the contract, which include the estimated number of patients and the total dollar value of the contract. The Company then records expense based upon the total number of patients enrolled during the period.

On a quarterly basis, the Company reviews both the timetable of services to be rendered and the timing of services actually received. Based upon this review, revisions may be made to the forecasted

F-10

---

timetable or the extent of services performed, or both, in order to reflect the Company's most current estimate of the contract.

#### **Loss Per Share**

The Company computes loss per share in accordance with the provisions of SFAS No. 128, "*Earnings per Share*." Basic net loss per share is based upon the weighted-average number of common shares outstanding and excludes the effect of dilutive common stock issuable upon exercise of stock options. Diluted net loss per share includes the effect of dilutive common stock issuable upon exercise of stock options using the treasury stock method. In computing diluted loss per share, only potential common shares that are dilutive, or those that reduce earnings per share, are included. The exercise of options is not assumed if the result is anti-dilutive, such as when a loss is reported. Accordingly, basic and diluted net loss per share is the same for all periods presented.

#### **Comprehensive Income (Loss)**

Statement of Financial Accounting Standards No. 130, "*Reporting Comprehensive Income*" ("SFAS 130") requires unrealized gains or losses on the Company's available-for-sale marketable securities to be included in other comprehensive income (loss). Total comprehensive loss for the years ended December 31, 2002 and 2001 amounted to \$22,023,352 and \$19,261,518, respectively.

#### **Employee Stock Compensation**

The Company has elected to follow Accounting Principles Board Opinion No. 25, "*Accounting for Stock Issued to Employees*" ("APB 25") in accounting for its stock-based compensation plans, rather than the alternative fair value accounting method provided for under SFAS No. 123, "*Accounting for Stock-Based Compensation*" ("SFAS 123"). Under APB 25, because the exercise price of the Company's employee stock options equals the market price of the underlying stock on the date of grant, no compensation expense is recognized.

F-11

---

## Edgar Filing: EPIX MEDICAL INC - Form 10-K

The following table illustrates the effect on net loss and net loss per share if the Company had applied the fair value recognition provisions of SFAS 123 to stock-based employee compensation.

	Year Ended December 31,		
	2002	2001	2000
Net loss as reported	\$ (22,191,221)	\$ (19,248,023)	\$ (27,320,243)
Add: employee stock-based compensation included in net loss as reported		301,770	15,400
Less: pro forma adjustment for stock-based compensation	(4,147,448)	(3,585,962)	(2,391,526)
Net loss pro forma	\$ (26,338,669)	\$ (22,532,215)	\$ (29,696,369)
<b>Net loss per share, basic and diluted:</b>			
As reported	\$ (1.31)	\$ (1.38)	\$ (2.20)
Pro forma	(1.56)	(1.61)	(2.39)
Effect of pro forma adjustment	\$ (0.25)	\$ (0.23)	\$ (0.19)

The weighted-average grant date fair value of stock options granted during 2002, 2001 and 2000 was \$8.04, \$5.61 and \$10.18 per share, respectively, on the date of grant using the Black-Scholes option pricing model with the following weighted-average assumptions:

	Options			ESPP		
	Year Ended December 31,					
	2002	2001	2000	2002	2001	2000
Expected life of option (years)	6.5	5.0	4.9	0.5	0.5	0.5
Expected stock price volatility	0.87	0.86	1.14	0.87	0.86	1.14
Weighted average risk-free interest rate	3.52%	4.72%	6.20%	3.65%	4.72%	6.20%

The effects on 2002, 2001 and 2000 pro forma net loss and net loss per share of expensing the estimated fair value of stock options and common stock issued pursuant to the stock option plans are not necessarily representative of the effects of reported results of operations for future years as the periods presented include only four, three and two years, respectively, of option grants and share purchases under the Company's plans.

### Recent Accounting Pronouncements

In June 2002, the FASB issued Statement No. 146, "*Costs Associated with Exit or Disposal Activities*." This Statement requires recording costs associated with exit or disposal activities at their fair values when a liability has been incurred. Under previous guidance, certain exit costs were accrued upon management's commitment to an exit plan, which is generally before an actual liability has been incurred. The Company does not anticipate a significant impact on its financial position or results of operations upon adoption of this Statement in 2003.

In December 2002, the FASB issued Statement No. 148, "*Accounting for Stock-Based Compensation Transition and Disclosure*" ("SFAS 148"). SFAS 148 amends Statement No. 123,

"*Accounting for Stock-Based Compensation*" ("SFAS 123") to provide alternative methods of transition to SFAS 123's fair value method of accounting for stock-based employee compensation. SFAS 148 also amends the disclosure provisions of SFAS 123 and APB Opinion No. 28, "*Interim Financial Reporting*" ("APB 28") to require disclosure in the summary of significant accounting policies of the effects of an entity's accounting policy with respect to stock-based employee compensation on reported net income and earnings per share in annual and interim

## Edgar Filing: EPIX MEDICAL INC - Form 10-K

financial statements. SFAS 148's amendment of the transition and annual disclosure requirements of SFAS 123 is effective for fiscal years ending after December 15, 2002. SFAS 148's amendment of the disclosure requirements of APB 28 is effective for financial reports containing condensed consolidated financial statements for interim periods beginning after December 15, 2002. The Company has provided the new disclosure in Employee Stock Compensation in Note 2.

### 3. Marketable Securities

The estimated fair value of marketable securities is determined based on broker quotes or quoted market prices or rates for the same or similar instruments. The estimated fair value and cost of marketable securities are as follows at December 31:

	2002		2001	
	Fair Value	Cost	Fair Value	Cost
Federal agency obligations	\$ 23,571,565	\$ 23,409,920	\$ 11,355,785	\$ 11,228,140

Maturities of marketable securities classified as available-for-sale by contractual maturity are shown below:

	2002	2001
Due within one year	\$ 23,571,565	\$ 11,355,785
Due after one year through two years		11,355,785
	\$ 23,571,565	\$ 11,355,785

Gross unrealized gains on marketable securities amounted to \$167,869 and \$137,165 in 2002 and 2001, respectively. Gross unrealized losses on marketable securities amounted to \$0 and \$9,520 in 2002 and 2001, respectively.

Gross realized gains on marketable securities in 2002 and 2001 amounted to \$155,901 and \$0, respectively. There were no realized losses in 2002 or 2001. The net amount of realized gains and losses is classified as interest income in the Statement of Operations. The cost of securities sold is based on the specific identification method.

F-13

### 4. Property and Equipment

Property and equipment consist of the following:

	December 31,	
	2002	2001
Leasehold improvements	\$ 2,377,562	\$ 2,221,947
Laboratory equipment	1,586,495	1,030,371
Furniture, fixtures and other equipment	738,909	880,339
Assets under capital lease	1,375,691	1,375,691
	6,078,657	5,508,348
Less accumulated depreciation and amortization	(4,785,855)	(4,264,506)
	\$ 1,292,802	\$ 1,243,842

## Edgar Filing: EPIX MEDICAL INC - Form 10-K

Depreciation and amortization expense, which includes amortization of assets recorded under capital leases, was \$1,014,106, \$915,177 and \$938,839 in 2002, 2001 and 2000, respectively.

### 5. Accrued Expenses

Accrued expenses consist of the following:

	December 31,	
	2002	2001
Accrued contractual product development expenses	\$ 4,673,367	\$ 3,261,548
Accrued compensation	1,006,350	885,757
Other accrued expenses	724,210	833,950
	\$ 6,403,927	\$ 4,981,255

F-14

### 6. Loan Payable to Strategic Partner

In October 1999, the Company entered into a Non-Negotiable Promissory Note and Security Agreement (the "Loan") with Tyco/Mallinckrodt, under which the Company was eligible to borrow its share of development costs, on a quarterly basis, up to a total of \$9.5 million. In June 2000, pursuant to the amended collaboration agreement with Tyco/Mallinckrodt and a new strategic collaboration with Schering AG, Schering AG assumed the development cost sharing obligation for MS-325 from Tyco/Mallinckrodt as of January 1, 2000. As a result, the Company amended the terms of the Loan to allow funding for the Company's portion of development costs through December 31, 1999. The Loan balance as of December 31, 2001 was \$3,004,607 and represented the Company's share of third and fourth quarter 1999 MS-325 development costs. The Loan accrued interest, adjustable on a quarterly basis, at the Prime Rate published in the Wall Street Journal and was repayable in full on October 1, 2002. The Company paid to Tyco the outstanding loan balance, plus accrued interest on October 1, 2002. No additional funding is available to the Company under the Loan. The Loan was secured by a first priority security interest in all of the Company's intellectual property, which has been released. The carrying value of the loan approximated fair value due to its variable interest rate.

### 7. Leases

Assets under capital lease, the majority of which are for laboratory equipment, totaled \$1,375,691 as of December 31, 2002 and 2001. During the years ended December 31, 2002, 2001 and 2000, the Company incurred amortization expense relating to assets under capital leases of \$56,438, \$237,933 and \$371,300, respectively. Accumulated amortization relating to assets under capital leases was \$1,375,691 and \$1,319,253 at December 31, 2002 and 2001, respectively.

In addition, the Company leases office space and certain office equipment under operating lease arrangements. The Company's office space lease at its First Street facility expires in October 2003 and the office and laboratory space lease at its Rogers Street facility expires in December 2007.

Future minimum commitments under leases with non-cancelable terms of one or more years are as follows at December 31, 2002:

2003	\$ 1,515,274
2004	823,105
2005	746,184
2006	735,610
2007	735,610
	\$ 4,555,783

Total rental expense amounted to \$1,540,573, \$1,344,440 and \$1,130,140 for 2002, 2001 and 2000, respectively.

### 8. Stockholders' (Deficit) Equity

## Edgar Filing: EPIX MEDICAL INC - Form 10-K

In September 2000, the Company entered into an agreement with Acqua Wellington North American Equities Fund Ltd. ("Acqua Wellington") for an equity financing facility covering the sale of up to \$45 million of the Company's common stock over a 28 month period. During 2001, the Company

F-15

received \$8,666,346 and in 2000, the Company received \$885,397 in net proceeds under this facility. These shares were sold at the Company's discretion at a small discount to the market price of the Company's shares at the time of the sale. The total amount of the investment was dependent, in part, on the Company's stock price, with the Company controlling the amount and timing of the stock sold. This equity financing facility was terminated in January 2002, in accordance with the terms of the equity financing facility agreement, as a result of an underwritten sale of all of the remaining shares available on the Company's then current effective S-3 shelf registration statement. The January 2002 offering raised \$30.1 million in net proceeds, and the Company issued 2.575 million shares. Acqua Wellington did not purchase any shares in the January offering.

### Warrants

In connection with the issuance of certain notes payable and the sale of Series D preferred stock in 1996, the Company issued warrants to purchase 40,000 shares of Series D preferred stock. Effective with the Company's initial public offering and the conversion of Series D preferred stock into the Company's common stock, the holders of the warrants became entitled to exercise the warrants for an aggregate of 26,665 shares of common stock at a cost equal to \$4.50 per common share. These warrants, which were outstanding at December 31, 2001, were due to expire in February 2002. In February 2002, the holders of the warrants exercised their warrants requiring the Company to issue 17,848 shares of its common stock. The Company received no cash proceeds from the exercise of these warrants as the warrant holders elected to exercise their warrants on a net stock issue basis. As a result of these warrant exercises, there are no remaining warrants outstanding.

### Equity Plans

#### Equity Incentive Plan

The Company has in place an Amended and Restated 1992 Equity Incentive Plan (the "Equity Plan"), which provides stock awards to purchase shares of Common Stock to be granted to employees and consultants. In August 2002, the Company amended the Equity Plan to, among other things, increase the number of shares reserved for issuance pursuant to future grants by 500,000. The Equity Plan provides for the grant of stock options (incentive and non-statutory), stock appreciation rights, performance shares, restricted stock or stock units, for the purchase of an aggregate of 5,599,901 shares of Common Stock, subject to adjustment for stock-splits and similar capital changes. Awards under the Equity Plan may be granted to officers, employees and other individuals as determined by the Compensation Committee. The Compensation Committee also selects the participants and establishes the terms and conditions of each option or other equity right granted under the Equity Plan, including the exercise price, the number of shares subject to options or other equity rights and the time at which such options become exercisable. As of December 31, 2002, 4,252,445 shares of Common Stock are reserved for issuance under the Equity Plan.

F-16

Stock option information relating to the Equity Plan is as follows:

	Options Outstanding	Option Price Range Per Share	Weighted Average Exercise Price	Available for Grant	Options Exercisable	
					Number	Weighted Average Exercise Price
December 31, 1999	2,379,962	\$ 0.42-\$13.88	\$ 5.97	78,587	703,485	\$ 4.28
Granted	615,915	\$ 6.75-\$22.50	\$ 12.75			
Exercised	(332,803)	\$ 0.42-\$13.88	\$ 4.86			
Canceled	(278,411)	\$ 0.83-\$22.25	\$ 7.55			
December 31, 2000	2,384,663	\$ 0.42-\$22.50	\$ 7.69	1,191,083	786,682	\$ 5.25



Edgar Filing: EPIX MEDICAL INC - Form 10-K

				<u>Options Exercisable</u>		
Granted	1,061,532	\$ 6.91-\$12.13	\$ 8.44			
Exercised	(98,266)	\$ 0.42-\$11.50	\$ 3.67			
Canceled	(99,453)	\$ 5.13-\$22.50	\$ 10.65			
<hr/>						
December 31, 2001	3,248,476	\$ 0.42-\$21.63	\$ 8.00	729,004	1,076,447	\$ 6.56
Granted	781,747	\$ 4.48-\$15.10	\$ 10.64			
Exercised	(225,035)	\$ 0.42-\$14.63	\$ 3.89			
Canceled	(133,454)	\$ 4.88-\$18.50	\$ 10.40			
<hr/>						
December 31, 2002	3,671,734	\$ 0.42-\$21.63	\$ 8.64	580,711	1,450,742	\$ 7.65

**1996 Director Stock Option Plan**

The Company has in place an Amended and Restated 1996 Director Stock Option Plan (the "Director Plan"). All of the directors who are not employees of the Company are currently eligible to participate in the Director Plan. As of December 31, 2002, there are 200,000 shares of Common Stock reserved for issuance under the Director Plan. Effective January 1, 2001, the numbers of shares underlying the option granted to each eligible director upon election or re-election was increased from 15,000 to 25,000 shares. Each option becomes exercisable with respect to 8,333 shares on each anniversary date of grant for a period of three years, provided that the option holder is still a director of the Company at the opening of business on such date. The options have a term of ten years and a vesting schedule of three years. The exercise price for the options is equal to fair value at the date of grant. The exercise price may be paid in cash or shares of Common Stock or a combination of both.

F-17

Stock option information relating to the Director Plan is as follows:

				<u>Options Exercisable</u>		
	<u>Options Outstanding</u>	<u>Option Price Range Per Share</u>	<u>Weighted Average Exercise Price</u>	<u>Available for Grant</u>	<u>Number</u>	<u>Weighted Average Exercise Price</u>
December 31, 1999	60,000	\$ 7.00-\$13.25	\$ 10.60	40,000	28,666	\$ 12.42
Granted	15,000	\$ 17.75	\$ 17.75			
<hr/>						
December 31, 2000	75,000	\$ 7.00-\$17.75	\$ 12.03	25,000	42,333	\$ 11.53
Granted	50,000	\$ 7.98-\$10.00	\$ 8.99			
Cancelled	(11,334)	\$ 8.50-\$17.75	\$ 16.66			
<hr/>						
December 31, 2001	113,666	\$ 7.00-\$17.75	\$ 10.23	86,334	58,666	\$ 11.56
Granted	25,000	\$ 9.05	\$ 9.05			
Exercised	(5,332)	\$ 8.50	\$ 8.50			
Cancelled	(13,334)	\$ 13.25-\$17.75	\$ 14.94			
<hr/>						
December 31, 2002	120,000	\$ 7.00-\$13.25	\$ 9.54	74,688	61,668	\$ 10.03

**Combined Option Information**

The following table summarizes information about options under the Equity Plan and the Director Plan outstanding at December 31, 2002:

<u>Range of Exercise Prices</u>	<u>Outstanding Options Outstanding at December 31,</u>	<u>Weighted Average Remaining Contractual Life</u>	<u>Weighted Average Exercise Price</u>	<u>Exercisable Options Exercisable at December 31,</u>	<u>Weighted Average Exercise Price</u>
---------------------------------	--	--	--	--	--

Edgar Filing: EPIX MEDICAL INC - Form 10-K

	2002			2002			
\$0.42-\$5.50	963,654	5.76	\$	4.51	596,153	\$	4.12
\$5.63-\$8.75	1,262,588	7.50	\$	8.19	437,075	\$	8.28
\$8.78-\$12.40	1,251,102	7.88	\$	10.96	348,444	\$	10.76
\$12.51-\$21.63	314,390	7.36	\$	14.26	130,738	\$	14.46
	3,791,734	7.17	\$	8.67	1,512,410	\$	7.75

**1996 Employee Stock Purchase Plan**

The Company sponsors the Amended and Restated 1996 Employee Stock Purchase Plan (the "Purchase Plan") under which employees may purchase shares of Common Stock at a discount from fair market value at specified dates. In May 2001, the Company amended the Purchase Plan to increase the number of shares of common stock that may be purchased under the Purchase Plan by 50,000 shares to an aggregate of 116,666. Employees purchased 12,733 shares in 2002 at an average price of \$7.30 per share and 18,822 shares in 2001 at an average price of \$8.13 per share. At December 31, 2002, 27,737 common shares remained available for issuance under the Purchase Plan. The Purchase Plan is intended to qualify as an employee stock purchase plan within the meaning of Section 423 of the Internal Revenue Code of 1986, as amended (the "Code"). Rights to purchase Common Stock under the Purchase Plan are granted at the discretion of the Compensation Committee, which determines the frequency and duration of individual offerings under the Purchase Plan and the dates

F-18

when stock may be purchased. Eligible employees participate voluntarily and may withdraw from any offering at any time before stock is purchased. Participation terminates automatically upon termination of employment. The purchase price per share of Common Stock in an offering is 85% of the lesser of its fair market value at the beginning of the offering period or on the applicable exercise date and is paid through payroll deductions. The Purchase Plan terminates in December 2006.

**9. Income Taxes**

The Company has reported losses since inception and, due to the degree of uncertainty related to the ultimate use of the net operating loss carry forwards, has fully reserved this tax benefit. The Company has the following deferred tax assets as of December 31, 2002 and 2001:

	December 31,	
	2002	2001
Deferred tax assets:		
Net operating loss carry forwards	\$ 39,322,000	\$ 29,010,000
Research and development tax credits	4,336,000	3,359,000
Book over tax depreciation and amortization	1,425,000	1,225,000
Deferred revenue	2,914,000	4,350,000
Other	1,086,000	1,090,000
Total deferred tax assets	49,083,000	39,034,000
Valuation allowance	(49,083,000)	(39,034,000)
Deferred income taxes, net	\$	\$

As of December 31, 2002, the Company has net operating loss carry forwards for income tax purposes of approximately \$98 million and \$86 million, which expire through the year 2022 and 2007, for Federal and State purposes, respectively. The valuation allowance increased by \$10,049,000 during the twelve months ended December 31, 2002. The tax net operating loss carry forwards differ from the accumulated deficit principally due to temporary differences in the recognition of certain revenue and expense items for financial and tax reporting purposes.

As a result of ownership changes resulting from sales of equity securities, the Company's ability to use the net operating loss carry forwards is subject to limitations as defined in Sections 382 and 383 of the Code. The Company currently estimates that the annual limitation on its use of

## Edgar Filing: EPIX MEDICAL INC - Form 10-K

net operating losses through May 31, 1996 will be approximately \$900,000. Pursuant to Sections 382 and 383 of the Code, the change in ownership resulting from public equity offerings in 1997 and any other future ownership changes may further limit utilization of losses and credits in any one year. The Company is also eligible for research and development tax credits, which can be carried forward to offset federal taxable income. The annual limitation and the timing of attaining profitability may result in the expiration of net operating loss and tax credit carry forwards before utilization.

F-19

The reconciliation of income tax computed at the U.S. federal statutory rate to income tax expense is as follows:

	Years ended December 31,		Years ended December 31,	
	2002	2001	2002	2001
Tax at U.S. statutory rate	\$ (7,513,000)	\$ (6,173,000)	(34.00)%	(34.00)%
State taxes, net of federal benefit	(1,326,000)	(1,089,000)	(6.00)%	(6.00)%
Non-deductible items	(196,343)	200,606	(0.88)%	1.10%
Foreign taxes, net of benefit	56,000	655,000	0.25%	3.61%
Tax credits	(976,000)	(406,000)	(4.42)%	(2.24)%
Change in valuation allowance	10,049,000	7,904,000	45.48%	45.50%
<b>Income tax expense</b>	<b>\$ 93,657</b>	<b>\$ 1,091,606</b>	<b>0.43%</b>	<b>7.97%</b>

### 10. Defined Contribution Plan

The Company offers a defined contribution 401(k) plan, which covers substantially all employees. The plan permits participants to make contributions from 1% to 15% of their compensation. Beginning in 1999, the Company began matching up to 3% of employees' contributions. During 2002, 2001, and 2000 the Company's match amounted to \$207,696, \$173,412, and \$154,061, respectively.

### 11. Strategic Alliances and Collaborations

The Company's business strategy includes entering into alliances with companies primarily in the pharmaceutical industry to facilitate the development, manufacture, marketing, sale and distribution of EPIX products.

#### Schering AG

In June 2000, the Company entered into a strategic collaboration agreement pursuant to which EPIX granted Schering AG an exclusive license to co-develop and market MS-325 worldwide, exclusive of Japan. In December 2000, the Company amended this strategic collaboration agreement to grant to Schering AG the exclusive rights to develop and market MS-325 in Japan while simultaneously reacquiring the Japanese rights from Daiichi (see Daiichi below). Generally, each party to the agreement shares equally in MS-325 costs and profits. Under the agreement, the Company will assume responsibility for completing clinical trials and filing for FDA approval in the United States, and Schering AG will manage clinical activities for the product outside the United States. In addition, the Company granted Schering AG an exclusive option to develop and market an unspecified cardiovascular MRI blood pool agent from the Company's product pipeline. In connection with this strategic collaboration and the amendment to the Company's strategic collaboration agreement with Tyco, Schering AG paid the Company an up-front fee of \$10.0 million, which the Company then paid to Tyco (see Tyco below). The Company did not reflect the receipt and the disbursement in its statement of operations on the basis that Schering AG's payment to the Company did not constitute an earnings process, nor did the Company's payment to Tyco represent an expense. Such payments were, however, reflected in the statement of cash flows. Under the agreement, Schering AG also paid the

F-20

Company \$20.0 million in exchange for shares of the Company's common stock through its affiliate, Schering Berlin Venture Corporation, or Schering BV. The Company may receive up to an additional \$20.0 million in milestone payments under the strategic collaboration agreement, of

## Edgar Filing: EPIX MEDICAL INC - Form 10-K

which up to \$2.5 million will be earned upon NDA filing and up to \$2.5 million will be earned upon FDA approval, all of which will be paid to Tyco (see Tyco below). Under the terms of the December 2000 amendment, Schering AG paid the Company an up-front fee of \$3.0 million and may be required to pay the Company an additional \$7.0 million upon the Company's achievement of certain milestones.

Under the strategic collaboration agreement, the Company also has options to acquire certain participation rights with respect to two of Schering AG's products currently in clinical trials, SHU 555C and Gadomer-17. The Company is entitled to exercise these options on a region-by-region basis upon the payment of certain fees. The Company is entitled to exercise the SHU 555C option for a period of twelve months after the date the option becomes exercisable. If and when the Company exercises the SHU 555C option, the Company will enter into a definitive agreement with Schering AG with respect to SHU 555C, pursuant to which Schering AG will be responsible for the conduct of all development, marketing and sales activities in connection with SHU 555C. The Company is entitled to exercise the Gadomer-17 option for a period of 120 days following Schering AG's performance of certain milestones. If and when the Company exercises the Gadomer-17 option, the Company will enter into a definitive agreement with Schering AG with respect to Gadomer-17, pursuant to which the Company will share development costs incurred from the date of the option exercise, as well as profits, equally with Schering AG.

Under the terms of the strategic collaboration agreement, either party may terminate the agreement upon thirty days notice if there is a material breach of the contract or if either party fails to meet certain milestones. In addition, Schering AG may terminate the agreement at any time on a region-by-region basis or in its entirety, upon six months written notice to the Company; and the Company may terminate the agreement with respect to development of MS-325 in the European Union, or EU, upon ninety days written notice to Schering AG, if Schering AG has failed to meet its obligations in connection with the regulatory approval of MS-325 in the EU.

On May 8, 2000, the Company granted to Schering AG a worldwide, royalty-bearing license to patents covering Schering AG's development project, Eovist injection, an MRI contrast agent for imaging the liver, currently in Phase III clinical trials. Also on May 8, 2000, Schering AG granted the Company a non-exclusive, royalty-bearing license to certain of its Japanese patents. The Company agreed to withdraw its invalidation claim of Schering AG's Japanese patent number 1,932,626 in the Japanese Patent Office pursuant to this license agreement. As more fully described in the section entitled "Bracco" below, Schering AG had been an opposing party in the Company's European patent case prior to the licensing agreement. On May 9, 2000, the Opposition Division of the European Patent Office maintained the Company's European patent in a slightly amended form. The patent is owned by MGH and is exclusively licensed to us. The remaining opposing parties initially elected to appeal the May 9, 2000 decision. However, in September 2001, the Company settled this patent dispute with such opposing parties by entering into a non-exclusive royalty bearing license agreement with Bracco Imaging S.p.A. See "Bracco" for further discussion of this settlement.

F-21

---

### **Tyco**

In June 2000, in connection with the exclusive license that the Company granted to Schering AG, the Company amended its strategic collaboration with Tyco to grant Tyco a non-exclusive, worldwide license to manufacture MS-325 for clinical development and commercial use in accordance with a manufacturing agreement entered into in June 2000 between Tyco and Schering AG, and to enable the Company to enter into the strategic collaboration agreement with Schering AG described above. In connection with this amendment, and only after receiving the \$10.0 million up-front fee from Schering AG, the Company paid Tyco an up-front fee of \$10.0 million and may pay up to an additional \$5.0 million in milestone payments, of which \$2.5 million is due upon NDA filing and \$2.5 million is due upon FDA approval. The Company will also pay Tyco a share of its MS-325 operating profit margins in the US and a royalty on MS-325 gross profits outside the US, except in Japan where no payments are due Tyco.

In October 1999, the Company entered into a Non-Negotiable Promissory Note and Security Agreement, or the Loan, with Tyco, the Company's strategic partner, under which the Company was eligible to borrow its share of MS-325 development costs, on a quarterly basis, up to a total of \$9.5 million. In June 2000, pursuant to the amended strategic collaboration agreement with Tyco and the new strategic collaboration agreement with Schering AG, Schering AG assumed the development cost sharing obligation for MS-325 from Tyco as of January 1, 2000. As a result, the Company amended the terms of the Loan to allow funding for its portion of development costs through December 31, 1999. The balance due under the Loan as of December 31, 2001 was \$3,004,607 and represented the Company's share of the third and fourth quarter MS-325 development costs in 1999. No additional funding was available to the Company under the Loan. The Loan bore interest, adjustable on a quarterly basis, at the Prime Rate published in the Wall Street Journal and was repayable in full on October 1, 2002. The loan was secured by a first priority security interest in all of the Company's intellectual property, which has been released. On October 1, 2002 the Company paid Tyco \$3,040,580, which consisted of its outstanding loan balance of \$3,004,607 plus accrued interest of \$35,973, to fully satisfy its obligation under the Loan.

### **Daiichi**

## Edgar Filing: EPIX MEDICAL INC - Form 10-K

In March 1996, the Company entered into a development and license agreement with Daiichi Radioisotope Laboratories or Daiichi pursuant to which EPIX granted Daiichi an exclusive license to develop and commercialize MS-325 in Japan. Under this agreement, Daiichi assumed primary responsibility for clinical development, regulatory approval, marketing and distribution of MS-325 in Japan. The Company retained the right and obligation to manufacture MS-325 for development activities and commercial sale under the agreement. In December 2000, the Company reacquired the rights to develop and commercialize MS-325 in Japan from Daiichi. Under the terms of this reacquisition agreement with Daiichi, the Company agreed to pay Daiichi a total amount of \$5.2 million. In January 2001, the Company paid Daiichi \$2.8 million in up-front fees and the Company will pay an additional \$2.4 million upon the earlier of regulatory approval of MS-325 in either the U.S. or Japan or December 31, 2003. Daiichi will also receive a royalty from the Company based on net sales of MS-325 in Japan. Simultaneously with the Company's reacquisition from Daiichi of the MS-325 development and marketing rights in Japan, the Company assigned these rights to Schering AG.

F-22

### Bracco

In September 2001, pursuant to a Settlement and Release Agreement and Worldwide License Agreement, referred to as the License Agreement, the Company granted Bracco a worldwide, non-exclusive royalty bearing sub-license to certain EPIX patents. The Company received \$10.0 million (\$9.0 million net of Italian income taxes) in up-front payments pursuant to the License Agreement, which consisted of a \$2.0 million license fee, \$1.0 million of royalties on past sales of MultiHance®, \$4.0 million of prepaid royalties and a \$3.0 million contingent license fee based upon FDA approval in the US. In addition, Bracco is obligated to pay EPIX a quarterly royalty on its sales of MultiHance® beginning in January 2001 and ending on the patent expiration date in each country in which MultiHance® is sold, which is currently 2006 in the U.S. and Europe.

If upon termination of the License Agreement, any balance remains of the prepaid royalties, originally \$4.0 million, this balance, \$3.0 million at December 31, 2002, must be repaid to Bracco. In addition, if MultiHance® does not gain FDA approval, the Company is obligated to repay the \$3.0 million contingent license fee, first as an offset against royalties due, and then in cash to the extent that such royalties are insufficient to meet the entire obligation. In November 2002, Bracco announced that it had received an approvable letter from the FDA for MultiHance®. The License Agreement may be terminated by either party upon thirty days notice if there is a material breach of the License Agreement or the other party becomes bankrupt.

F-23

### 12. Quarterly Financial Information (unaudited)

	First Quarter Ended March 31, 2002	Second Quarter Ended June 30, 2002	Third Quarter Ended September 30, 2002	Fourth Quarter Ended December 31, 2002	Total Year
<b>Revenues:</b>					
Product development revenue	\$ 1,230,887	\$ 2,776,790	\$ 1,975,500	\$ 2,732,797	\$ 8,715,974
Royalty revenue	307,338	432,480	310,970	509,356	1,560,144
License fee revenue	527,990	527,990	468,701	468,702	1,993,383
<b>Total revenues</b>	<b>2,066,215</b>	<b>3,737,260</b>	<b>2,755,171</b>	<b>3,710,855</b>	<b>12,269,501</b>
<b>Operating expenses:</b>					
Research and Development	5,411,514	9,002,603	6,966,702	7,703,650	29,084,469
General & administrative	1,378,457	1,670,328	1,453,275	1,499,039	6,001,099
<b>Total operating expenses</b>	<b>6,789,971</b>	<b>10,672,931</b>	<b>8,419,977</b>	<b>9,202,689</b>	<b>35,085,568</b>
Other income, net	152,598	273,003	88,989	203,913	718,503
Income taxes	18,489	25,949	18,658	30,561	93,657
<b>Net loss</b>	<b>\$ (4,589,647)</b>	<b>\$ (6,688,617)</b>	<b>\$ (5,594,475)</b>	<b>\$ (5,318,482)</b>	<b>\$ (22,191,221)</b>

Edgar Filing: EPIX MEDICAL INC - Form 10-K

	First Quarter Ended March 31, 2002	Second Quarter Ended June 30, 2002	Third Quarter Ended September 30, 2002	Fourth Quarter Ended December 31, 2002	Total Year
Weighted average shares, basic and diluted	16,417,407	16,985,677	17,038,125	17,062,091	16,878,036
Net loss per share:					
Basic and diluted	\$ (0.28)	\$ (0.39)	\$ (0.33)	\$ (0.31)	\$ (1.31)
	First Quarter Ended March 31, 2001	Second Quarter Ended June 30, 2001	Third Quarter Ended September 30, 2001	Fourth Quarter Ended December 31, 2001	Total Year
Revenues:					
Product development revenue	\$ 1,308,946	\$ 1,774,695	\$ 1,374,335	\$ 1,262,172	\$ 5,720,148
Royalty revenue			1,818,802	233,595	2,052,397
License fee revenue	422,727	422,727	422,727	527,989	1,796,170
Total revenues	1,731,673	2,197,422	3,615,864	2,023,756	9,568,715
Operating expenses:					
Research and Development	5,322,031	6,352,953	5,358,701	5,870,095	22,903,780
General & administrative	1,586,835	1,264,498	1,337,407	1,317,067	5,505,807
Total operating expenses	6,908,866	7,617,451	6,696,108	7,187,162	28,409,587
Other income, net	206,807	293,148	137,761	46,739	684,455
Income taxes			1,082,000	9,606	1,091,606
Net loss	\$ (4,970,386)	\$ (5,126,881)	\$ (4,024,483)	\$ (5,126,273)	\$ (19,248,023)
Weighted average shares, basic and diluted	13,638,913	14,022,893	14,160,239	14,198,579	14,007,165
Net loss per share:					
Basic and diluted	\$ (0.36)	\$ (0.37)	\$ (0.28)	\$ (0.36)	\$ (1.38)

F-24

QuickLinks

[PART I](#)

[PART II](#)

[PART III](#)

[PART IV](#)

[SIGNATURES](#)

[EPIX MEDICAL, INC. INDEX TO FINANCIAL STATEMENTS](#)

[REPORT OF INDEPENDENT AUDITORS](#)

Edgar Filing: EPIX MEDICAL INC - Form 10-K

EPIX MEDICAL, INC. BALANCE SHEETS

EPIX MEDICAL, INC. STATEMENTS OF OPERATIONS

EPIX MEDICAL, INC. STATEMENTS OF STOCKHOLDERS' (DEFICIT) EQUITY

EPIX MEDICAL, INC. STATEMENTS OF CASH FLOWS

EPIX MEDICAL, INC. NOTES TO FINANCIAL STATEMENTS December 31, 2002