

ORTHOLOGIC CORP
Form S-3/A
August 17, 2005

Table of Contents

As filed with the Securities and Exchange Commission on August 16, 2005

Registration No. 333-127356

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

Amendment No. 1
to
FORM S-3
REGISTRATION STATEMENT
Under
The Securities Act of 1933

ORTHOLOGIC CORP.
(Exact name of Registrant as specified in its charter)

DELAWARE
(State or other jurisdiction
of incorporation or organization)

86-0585310
(I.R.S. Employer
Identification No.)

**1275 West Washington Street
Tempe, Arizona 85281
(602) 286-5520**

(Address, including ZIP Code, and telephone number,
including area code, of Registrant's principal executive offices)

**James M. Pusey, Chief Executive Officer
OrthoLogic Corp.**

**1275 West Washington Street
Tempe, Arizona 85281
(602) 286-5520**

(Name, address, including ZIP Code, and telephone number,
including area code, of agent for service)

Copy to:
**Steven P. Emerick, Esq.
Quarles & Brady Streich Lang, LLP
One Renaissance Square, Two North Central Avenue
Phoenix, Arizona 85004
(602) 230-5517**

Approximate date of commencement of proposed sale of the securities to the public: At such time or from time to time after the effective date of this Registration Statement as determined in light of market conditions and other factors.

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest

reinvestment plans, check the following box.

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. _____

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. _____

If delivery of the prospectus is expected to be made pursuant to Rule 434, please check the following box.

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until the Registration Statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

Information contained herein is subject to completion or amendment. A registration statement relating to these securities has been filed with the Securities and Exchange Commission. These securities may not be sold nor may offers to buy be accepted prior to the time the registration statement becomes effective. This prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any State where the offer, solicitation or sale is not permitted.

Table of Contents

PROSPECTUS

The information in this document is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and we are not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED AUGUST 16, 2005

\$100,000,000

ORTHOLOGIC CORP.

COMMON STOCK

(with attached Preferred Stock Purchase Rights)

PREFERRED STOCK

(issuable in series)

When we offer securities, we will provide you with a prospectus supplement describing the terms of the specific issue of securities, including the offering price of the securities. The prospectus supplement may also add, update or change information contained in this prospectus. You should read this prospectus and any supplement carefully before you invest.

We may offer from time to time:

common stock, \$0.0005 par value per share, with attached preferred stock purchase rights;

preferred stock, \$0.0005 par value per share, issuable in series; and

any combination of the foregoing;

at an aggregate initial offering price not to exceed \$100,000,000, at prices and on terms to be determined at or prior to the time of sale in

light of market conditions at the time of sale.

Our common stock is quoted on The Nasdaq National Market, under the symbol OLGC. Our preferred stock is not listed or quoted on any exchange.

The address and telephone number of our principal offices are 1275 West Washington Street, Tempe, Arizona 85281; telephone (602) 286-5520.

You should carefully consider the Risk Factors described under the heading Forward-Looking Statements and Risk Factors beginning on page 3 in this prospectus, in addition to any risk factors which may be included in any supplement, or which are incorporated by reference into this prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is _____, 2005.

TABLE OF CONTENTS

| | Page |
|---|------|
| <u>ABOUT THIS PROSPECTUS</u> | 2 |
| <u>FORWARD-LOOKING STATEMENTS AND RISK FACTORS</u> | 3 |

| | |
|--|----|
| <u>THE COMPANY</u> | 10 |
| <u>WHERE YOU CAN FIND MORE INFORMATION</u> | 14 |
| <u>USE OF PROCEEDS</u> | 15 |
| <u>DESCRIPTION OF CAPITAL STOCK</u> | 16 |
| <u>PLAN OF DISTRIBUTION</u> | 18 |
| <u>LEGAL MATTERS</u> | 19 |
| <u>EXPERTS</u> | 19 |
| <u>Exhibit 23.1</u> | |

* * *

No person has been authorized to give any information or to make any representation not contained in, or incorporated by reference into, this prospectus or the accompanying prospectus supplement. You must not rely on any unauthorized information or representation. We do not imply or represent by delivering this prospectus that OrthoLogic Corp., or its business, is unchanged after the date of the prospectus or that the information in this prospectus is correct as of any time after its date.

The information in this prospectus or any prospectus supplement may not contain all of the information that may be important to you. You should read the entire prospectus and any prospectus supplement, as well as the documents incorporated by reference into this prospectus or any accompanying prospectus supplement, before making an investment decision.

ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement on Form S-3 that we filed with the Securities and Exchange Commission utilizing a shelf registration process. Using this process, we may, from time to time, offer any combination of securities described in this prospectus in one or more offerings with a total initial offering price of up to \$100,000,000. This prospectus provides you with a general description of the securities we may offer. Each time we sell securities, we will provide a prospectus supplement that will contain specific information about the terms of that particular offering. The prospectus supplement may also add, update or change information contained in this prospectus. To obtain additional information that may be important to you, you should also read the exhibits to the registration statement. You should read both this prospectus and any applicable prospectus supplement together with additional information described below under the heading Where You Can Find More Information.

When used in this prospectus and any prospectus supplement, the terms OrthoLogic, we, our, us and the Company refer to OrthoLogic Corp.

Table of Contents

FORWARD-LOOKING STATEMENTS AND RISK FACTORS

All statements other than statements of historical facts included or incorporated by reference into this prospectus, including statements regarding our future financial position, business strategy, budgets, projected costs, and plans and objectives for future operations are forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. These statements are subject to risks and uncertainties that could cause actual results to differ materially from those anticipated as of the date of this prospectus. Forward-looking statements generally can be identified by the use of forward-looking words such as may, could, expect, intend, plan, seek, anticipate, believe, estimate, predict, potential, continue, or the negative of these terms or other comparable terminology. You should not place undue reliance on forward-looking statements since they involve known and unknown risks, uncertainties and other factors which are, in some cases, beyond our control and which could materially affect actual results, levels of activity, performance or achievements. Some of the factors that could cause such a variance may be disclosed in the section Risk Factors in the accompanying prospectus supplement and elsewhere in this prospectus and documents incorporated by reference into this prospectus, and include the following:

unfavorable results of our product candidate development efforts;

unfavorable results of our pre-clinical or clinical testing;

delays in obtaining, or failure to obtain FDA approvals;

increased regulation by the FDA and other agencies;

the introduction of competitive products;

impairment of license, patent or other proprietary rights;

failure to achieve market acceptance of our products;

the impact of present and future collaborative agreements; and

failure to successfully implement our drug development strategy.

We urge you to consider these factors and to review carefully the description of risks below and in the section Risk Factors if included in the accompanying prospectus supplement for a more complete discussion of the risks of an investment in our securities. The forward-looking statements included in this prospectus or incorporated by reference into this prospectus are made only as of the date of this prospectus or the date of the incorporated document, and we undertake no obligation to publicly update these statements to reflect subsequent events or circumstances.

Risks of our Business

We are a biopharmaceutical company with no revenue generating operations and high investment costs.

We expect to incur losses for a number of years as we expand our research and development projects. There is no assurance that our current level of funds will be sufficient to support all research expenses to achieve commercialization of any of our product candidates. In November 2003, we sold our bone growth stimulation device business, which was our revenue generating operation. We are now focused solely on developing and testing the product candidates in our Chrysalin Product Platform. We currently have no pharmaceutical products being sold or ready for sale and do not expect to be able to market any pharmaceutical products for at least several years. As a result of our significant research and development, clinical development, regulatory compliance and general and administrative expenses and the lack of any products to generate revenue, we expect to incur losses for at least the next several years and expect that our losses will increase as we expand our research and development activities and incur significant expenses for clinical trials. Our cash reserves are the primary source of our working capital. At the end of 2004, our cash and investments were approximately \$103.6 million. At June 30, 2005, our cash and investments were \$91.1 million. Based on current research and development plans, we anticipate that 2005 cash

expenditures will be approximately \$26.0 to \$28.0 million, which we expect will be offset by the receipt of \$7.0 million in cash from an indemnity escrow established in connection with the sale of our bone growth stimulation device business in November 2003. As we accelerate our development work, particularly for indications other than our most advanced indication, fracture repair, we will need additional funding to continue our development program, through the sale of equity or debt securities, joint ventures, licensing agreements, or other sources of funding.

Table of Contents

We do not expect to receive any revenue from product sales until we receive regulatory approval and begin commercialization of our product candidates. We cannot predict when that will occur or if it will occur.

We caution that our future cash expenditure levels are difficult to forecast because the forecast is based on assumptions about the number of research projects we pursue, the pace at which we pursue them, the quality of the data collected and the requests of the FDA to expand, narrow or repeat clinical trials and analyze data. Changes in any of these assumptions can change significantly our estimated cash expenditure levels.

Our product candidates are in various stages of development and may not be successfully developed or commercialized.

If we fail to commercialize our product candidates, we will not be able to generate revenue. We currently do not sell any products. Our product candidates are at the following stages of development:

| | |
|---------------------------------|---------------------------------|
| Acceleration of Fracture Repair | Phase 3 human clinical trials |
| Dermal Wound Healing | Phase 1/2 human clinical trials |
| Cartilage Defect Repair | Late stage pre-clinical trials |
| Tendon and Ligament Repair | Early stage pre-clinical trials |
| Cardiovascular Repair | Pre-clinical trials |
| Spine Fusion | Phase 1/2 human clinical trials |

We are subject to the risk that:

some or all of our product candidates are determined to be ineffective or unsafe;

we do not receive necessary regulatory approvals;

we are unable to get some or all of our product candidates to market in a timely manner;

we are not able to produce our product candidates in commercial quantities at reasonable costs;

our products undergo post-market evaluations resulting in marketing restrictions or withdrawal of our products;
or

patients, health insurance and/or physicians do not accept our products.

In addition, our product development programs may be curtailed, redirected or eliminated at any time for many reasons, including:

adverse or ambiguous results;

undesirable side effects which delay or extend the trials;

inability to locate, recruit, qualify and retain a sufficient number of patients for our trials;

regulatory delays or other regulatory actions;

difficulties in obtaining sufficient quantities of the particular product candidate or any other components needed for our pre-clinical testing or clinical trials;

change in the focus of our development efforts; and

re-evaluation of our clinical development strategy.

We cannot predict whether we will successfully develop and commercialize any of our product candidates. If we fail to do so, we will not be able to generate revenue.

Our product candidates are all based on the same peptide, Chrysalin. If one of our product candidates reveals safety or fundamental inefficacy issues in clinical trials, it could impact the development path for all our other current product candidates.

The development of each of our product candidates in the Chrysalin Product Platform is based on our knowledge and understanding of how the thrombin molecule contributes to tissue repair. While there are important differences in each of the product candidates in terms of their purpose (fracture repair, diabetic ulcer healing, cartilage repair, etc.), each product candidate is focused on accelerating tissue repair and is based on the ability of

Table of Contents

Chrysalin to mimic specific attributes of the human thrombin molecule to stimulate the body's natural healing processes.

Since we are developing the product candidates in the Chrysalin Product Platform in parallel, we expect to learn from the results of each trial and apply some of our findings to the development of the other product candidates in the platform. If one of the product candidates has negative clinical trial results or is shown to be ineffective, it could impact the development path or future development of the other product candidates in the platform. If we find that one of the biopharmaceutical product candidates is unsafe, it could impact the development of our other product candidates in clinical trials.

A portion of our rights to Chrysalin are sublicensed and if the license is invalid or unenforceable, we may lose our rights to use the Chrysalin technology, which would ultimately prevent us from commercializing and selling any Chrysalin-based products.

We co-own the principal patents underlying Chrysalin and indirectly license all other rights to the patents from the other co-owner through a license with the University of Texas, the licensee from the co-owner. If we lose our rights to Chrysalin under the license agreement, we would be unable to continue our product development programs and our business and prospects would be materially harmed.

If we cannot protect the Chrysalin patents or our intellectual property generally, our ability to develop and commercialize our products will be severely limited.

Our success will depend in part on our ability to maintain and enforce patent protection for Chrysalin and each product resulting from Chrysalin. Without patent protection, other companies could offer substantially identical products for sale without incurring the sizable discovery, development and licensing costs that we have incurred. Our ability to recover these expenditures and realize profits upon the sale of products would then be diminished.

Chrysalin is patented and there have been no successful challenges to the Chrysalin patent. However, if there were to be a challenge to the patent or any of the patents for product candidates, a court may determine that the patents are invalid or unenforceable. Even if the validity or enforceability of a patent is upheld by a court, a court may not prevent alleged infringement on the grounds that such activity is not covered by the patent claims. Any litigation, whether to enforce our rights to use our or our licensors' patents or to defend against allegations that we infringe third party rights, will be costly, time consuming, and may distract management from other important tasks.

As is commonplace in the biotechnology and pharmaceutical industry, we employ individuals who were previously employed at other biotechnology or pharmaceutical companies, including our competitors or potential competitors. To the extent our employees are involved in research areas which are similar to those areas in which they were involved at their former employers, we may be subject to claims that such employees and/or we have inadvertently or otherwise used or disclosed the alleged trade secrets or other proprietary information of the former employers. Litigation may be necessary to defend against such claims, which could result in substantial costs and be a distraction to management and which may have a material adverse effect on us, even if we are successful in defending such claims.

We also rely in our business on trade secrets, know-how and other proprietary information. We seek to protect this information, in part, through the use of confidentiality agreements with employees, consultants, advisors and others. Nonetheless, we cannot assure that those agreements will provide adequate protection for our trade secrets, know-how or other proprietary information and prevent their unauthorized use or disclosure. To the extent that consultants, key employees or other third parties apply technological information independently developed by them or by others to our proposed products, disputes may arise as to the proprietary rights to such information, which may not be resolved in our favor. The risk that other parties may breach confidentiality agreements or that our trade secrets become known or independently discovered by competitors, could adversely affect us by enabling our competitors, who may have greater experience and financial resources, to copy or use our trade secrets and other proprietary information in the advancement of their products, methods or technologies.

Our success also depends on our ability to operate and commercialize products without infringing on the patents or proprietary rights of others.

Third parties may claim that we or our licensors or suppliers are infringing their patents or are misappropriating their proprietary information. In the event of a successful claim against us or our licensors or suppliers for

infringement of the patents or proprietary rights of others, we may be required to, among other things:

- pay substantial damages;
- stop using our technologies;
- stop certain research and development efforts;
- develop non-infringing products or methods; and
- obtain one or more licenses from third parties.

A license required under any such patents or proprietary rights may not be available to us, or may not be available on acceptable terms. If we or our licensors or suppliers are sued for infringement, we could encounter substantial delays in, or be prohibited from, developing, manufacturing and commercializing our product candidates.

Table of Contents

The loss of our key management and scientific personnel may hinder our ability to execute our business plan.

As a small company with 40 employees, our success depends on the continuing contributions of our management team and scientific personnel, and maintaining relationships with the network of medical and academic centers in the United States that conduct our clinical trials. We are most highly dependent on the services of Dr. James Ryaby, our Senior Vice-President and Chief Scientific Officer, whom we consider our key scientific employee. A long time employee of OrthoLogic, Dr. Ryaby oversees all of our clinical trials. Like all companies in our field, we face intense competition in our hiring efforts with other pharmaceutical and biotechnology companies, as well as universities and nonprofit research organizations, and we may have to pay higher salaries to attract and retain qualified personnel. The loss of one or more members of our current management team or any of our scientific personnel, could delay our business plan. The loss of Dr. Ryaby could cause a substantial delay in implementing our business plan. We do not maintain key man insurance on Dr. Ryaby.

We face an inherent risk of liability in the event that the use or misuse of our products results in personal injury or death.

The use of our product candidates in clinical trials, and the sale of any approved products, may expose us to product liability claims, which could result in financial losses. Our clinical liability insurance coverage may not be sufficient to cover claims that may be made against us. In addition, we may not be able to maintain insurance coverage at a reasonable cost or in sufficient amounts or scope to protect us against losses. Any claims against us, regardless of their merit, could severely harm our financial condition, strain our management and other resources and adversely impact or eliminate the prospects for commercialization of the product which is the subject of any such claim.

Our stock price is volatile and fluctuates due to a variety of factors.

Our stock price has varied significantly in the past (from a low of \$3.28 to a high of \$8.96 since January 1, 2003) and may vary in the future due to a number of factors, including:

announcement of the results of, or delays in, preclinical and clinical studies;

fluctuations in our operating results;

developments in litigation to which we or a competitor is subject;

announcements and timing of potential acquisitions, divestitures, and conversions of preferred stock,

announcements of technological innovations or new products by us or our competitors;

FDA and other regulatory actions;

developments with respect to our or our competitors' patents or proprietary rights;

public concern as to the safety of products developed by us or others; and

changes in stock market analyst recommendations regarding us, other drug development companies or the pharmaceutical industry generally.

In addition, the stock market has from time to time experienced significant price and volume fluctuations that are unrelated to the operating performance of particular companies. These broad market fluctuations may adversely affect the market price of our stock.

Risks of our Industry

The pharmaceutical industry is subject to stringent regulation, and failure to obtain regulatory approval will prevent commercialization of our products.

Our research, development, pre-clinical and clinical trial activities and the manufacture and marketing of any products that we may successfully develop are subject to an extensive regulatory approval process by the FDA and

other regulatory agencies in the United States and abroad. The process of obtaining required regulatory approvals for drugs is lengthy, expensive and uncertain, and any such regulatory approvals may entail limitations on the indicated usage of a drug, which may reduce the drug's market potential.

Table of Contents

In order to obtain FDA approval to commercialize any product candidate, an NDA must be submitted to the FDA demonstrating, among other things, that the product candidate is safe and effective for use in humans for each target indication. Our regulatory submissions may be delayed, or we may cancel plans to make submissions for product candidates for a number of reasons, including:

negative or ambiguous pre-clinical or clinical trial results;

changes in regulations or the adoption of new regulations;

unexpected technological developments; and

developments by our competitors that are more effective than our product candidates.

Consequently, we cannot assure that we will make our submissions to the FDA in the timeframe that we have planned, or at all, or that our submissions will be approved by the FDA. Even if regulatory clearance is obtained, post-market evaluation of our products, if required, could result in restrictions on a product's marketing or withdrawal of a product from the market as well as possible civil and criminal sanctions.

Clinical trials are subject to oversight by institutional review boards and the FDA to ensure compliance with the FDA's good clinical practice regulations, as well as other requirements for good clinical practices. We depend, in part, on third-party laboratories and medical institutions to conduct pre-clinical studies and clinical trials for our products and other third-party organizations, usually universities, to perform data collection and analysis, all of which must maintain both good laboratory and good clinical practices. If any such standards are not complied with in our clinical trials, the FDA may suspend or terminate such trial, which would severely delay our development and possibly end the development of a product candidate.

We also currently and in the future will depend upon third party manufacturers of our products, who are required to maintain compliance with the applicable FDA Good Manufacturing Practice regulations. We cannot be certain that our present or future manufacturers and suppliers will continue to comply with these regulations. Failure to comply with these regulations may result in restrictions in the sale of, or withdrawal of the products from the market. Compliance by third parties with these standards and practices are outside of our direct control.

In addition, we are subject to regulation under state and federal laws, including requirements regarding occupational safety, laboratory practices, environmental protection and hazardous substance control, and may be subject to other local, state, federal and foreign regulation. We cannot predict the impact of such regulations on us, although they could impose significant restrictions on our business and require us to incur additional expenses to comply. We endeavor to monitor compliance by conducting periodic audits using independent third party vendors. *The results of our late stage clinical trials may be insufficient to obtain FDA approval, which could result in a substantial delay in our ability to generate revenue.*

Positive results from pre-clinical studies and early clinical trials do not ensure positive results in more advanced clinical trials. If we are unable to demonstrate that a product candidate will be safe and effective in advanced clinical trials involving larger numbers of patients, we will be unable to submit the New Drug Application (NDA) necessary to receive approval from the FDA to commercialize that product.

We are currently conducting a Phase 3 human clinical trial on Chrysalin for fracture repair indications. If we fail to achieve the primary endpoint in this Phase 3 clinical trial or the results are ambiguous, we will have to determine whether to redesign our Chrysalin fracture repair product candidate and our protocols and continue with additional testing, or cease activities in this area. Redesigning the product candidate could be extremely costly and time-consuming. A substantial delay in obtaining FDA approval or termination of the Chrysalin fracture repair product candidate could result in a delay in our ability to generate revenue.

Patients may discontinue their participation in our clinical studies, which may negatively impact the results of these studies and extend the timeline for completion of our development programs.

As with all clinical trials, we are subject to the risk that patients enrolled in our clinical studies may discontinue their participation at any time during the study as a result of a number of factors, including, withdrawing their consent or experiencing adverse clinical events, which may or may not be judged related to our product

Table of Contents

candidates under evaluation. We are subject to the risk that if a large number of patients in any one of our studies discontinue their participation in the study, the results from that study may not be positive or may not support an NDA for regulatory approval of our product candidates.

In addition, the time required to complete clinical trials is dependent upon, among other factors, the rate of patient enrollment. Patient enrollment is a function of many factors, including:

the size of the patient population;

the nature of the clinical protocol requirements;

the diversion of patients to other trials or marketed therapies;

our ability to recruit and manage clinical centers and associated trials;

the proximity of patients to clinical sites; and

the patient eligibility criteria for the study.

Even if we obtain marketing approval, our products will be subject to ongoing regulatory oversight, which may affect our ability to successfully commercialize any products we may develop.

Even if we receive regulatory approval of a product candidate, the approval may be subject to limitations on the indicated uses for which the product is marketed or require costly post-marketing follow-up studies. After we obtain marketing approval for any product, the manufacturer and the manufacturing facilities for that product will be subject to continual review and periodic inspections by the FDA and other regulatory agencies. The subsequent discovery of previously unknown problems with the product, or with the manufacturer or facility, may result in restrictions on the product or manufacturer, including withdrawal of the product from the market.

If we fail to comply with applicable regulatory requirements, we may be subject to fines, suspension or withdrawal of regulatory approvals, product recalls, seizure of products, operating restrictions and criminal prosecution.

If our competitors develop and market products that are more effective than ours, or obtain marketing approval before we do, our commercial opportunities will be reduced or eliminated.

Competition in the pharmaceutical and biotechnology industries is intense and is expected to increase. Several biotechnology and pharmaceutical companies, as well as academic laboratories, universities and other research institutions, are involved in research and/or product development for various treatments for or involving fracture repair, diabetic ulcer healing, cartilage defect repair, cardiovascular repair and ligament and tendon repair. Many of our competitors have significantly greater research and development capabilities, experience in obtaining regulatory approvals and manufacturing, marketing, financial and managerial resources than we have. We are currently aware of the following development efforts by our competitors:

Table of Contents

Acceleration of Fracture Repair: While there is currently no drug product approved by the FDA for acceleration of fracture repair, at least one large pharmaceutical company, Pfizer, Inc., received FDA clearance to begin human clinical trials in the United States for this indication.

Diabetic Ulcer Healing: To our knowledge, there are two corporate sponsored clinical trials underway on new drug substances for diabetic ulcer healing. These early stage clinical trials are being conducted by Genentech on recombinant human vascular endothelial growth factor, and by King Pharmaceuticals on an adenosine A2A receptor agonist. One gene therapy company, Selective Genetics, has initiated an early stage human clinical trial on platelet derived growth factors in the United States for the diabetic ulcer indication.

Cartilage Defect Repair: Several products with bioactive components are in the development stage for this indication, including Bone Morphogenic Proteins (BMPs). However, we believe no company has yet received FDA authorization to begin human clinical trials in the United States for this indication.

Our competitors may succeed in developing products that are more effective than the ones we have under development or that render our proposed products or technologies noncompetitive or obsolete. In addition, certain of such competitors may achieve product commercialization before we do. If any of our competitors develops a product that is more effective than one we are developing or plan to develop, or is able to obtain FDA approval for commercialization before we do, we may not be able to achieve significant market acceptance for certain products of ours, which would have a material adverse effect on our business.

Healthcare reform and restrictions on reimbursements may limit our financial returns.

Our ability to successfully commercialize our products may depend in part on the extent to which government health administration authorities, private health insurers and other third party payors will reimburse consumers for the cost of these products. Third party payors are increasingly challenging both the need for, and the price of, novel therapeutic drugs and uncertainty exists as to the reimbursement status of newly approved therapeutics. Adequate third party reimbursement may not be available for our drug products to enable us to maintain price levels sufficient to realize an appropriate return on our investments in research and product development, which could restrict our ability to commercialize a particular drug candidate.

We caution that the foregoing list of important factors is not exclusive. We do not undertake to update any forward-looking statement that may be made from time to time by or on behalf of us. The foregoing list of important factors is not exclusive and may not be up to date.

Developments in any of these areas could cause our results to differ materially from results that have been or may be projected by us.

Table of Contents

THE COMPANY

OrthoLogic is a drug development company focused on the healing of musculoskeletal, orthopedic, dermal and cardiovascular tissue through therapeutic biopharmaceutical approaches. Our research and clinical trials are focused on the potential commercialization of several therapeutics comprising the Chrysalin® Product Platform, a series of product candidates aimed at treating both traumatic and chronic indications. Chrysalin, or TP508, is a 23-amino acid synthetic peptide representing a receptor-binding domain of the human thrombin molecule, a naturally occurring molecule in the body, and has the potential to accelerate the natural cascade of healing events in tissue repair. We continue to explore other biopharmaceutical compounds that can complement our research activity internally and broaden our potential pipeline for successful products.

On August 5, 2004, we purchased substantially all of the assets and intellectual property of Chrysalis Biotechnology, Inc. (CBI), including its exclusive worldwide license for Chrysalin for all medical indications, for \$2.5 million in cash and \$25.0 million in OrthoLogic common stock plus an additional \$7.0 million in OrthoLogic common stock upon the occurrence of certain triggering events. We became a development stage entity commensurate with the acquisition.

The Chrysalin technology represents the ability to potentially accelerate tissue repair by the initiation of the body's entire natural healing cascade. Chrysalin has been shown to recruit cells to the site of tissue injury, turn on the synthesis of specific growth factors known to be crucial for tissue healing, and stimulate revascularization of damaged tissue.

OrthoLogic owns the exclusive worldwide license for Chrysalin for all medical indications. We are pursuing the following potential medical applications for Chrysalin:

fracture repair;

diabetic ulcer healing; and

cartilage defect repair.

Preclinical research, as well as a Phase 1/2 pilot clinical safety study has been conducted in the following indications:

spine fusion;

cardiovascular repair, and

ligament and tendon repair.

We continue to explore other biopharmaceutical or peptide-based compounds that can complement the research activities internally and broaden the potential pipeline for successful products.

OUR LEAD PRODUCT CANDIDATES

Acceleration of Fracture Repair

Every broken bone is called a fracture and approximately 30 million fractures are treated every year throughout the developed world, as reported by medical reimbursement records in countries with national healthcare systems. The treatment of a fracture depends on the severity of the break. Simple fractures often heal themselves, with more complex closed fractures potentially amenable to treatment by manipulation (also called reduction) without requiring surgery. Fractures that break the skin (or open fractures) or where the fragments cannot be lined up correctly usually require surgery. Sometimes plates, screws or pins are used for mechanical stabilization, occasionally with the use of bone grafts, all of which are invasive, expensive and time consuming procedures.

Table of Contents

Chrysalin is a substance that, when injected through the skin into the fracture site at the time of fracture reduction, has been shown in preliminary clinical trials to accelerate the healing of the fracture. Chrysalin does this by mimicking certain stimulatory aspects of the thrombin molecule. Fractures that heal faster lead to earlier return of function for the patient and potentially improved clinical outcomes.

In pre-clinical animal studies, a single injection of Chrysalin into the fracture gap accelerated fracture healing by up to 50% as measured by mechanical testing. In late 1999, we initiated a combined Phase 1/2 human clinical trial to evaluate the safety of Chrysalin and its effect on the rate of healing in adult subjects with unstable distal radius fractures (fractures around and in the wrist joint). We presented the results of this Phase 1/2 human clinical trial for fracture repair at the 57th Annual Meeting of the American Society for Surgery of the Hand in October 2002. The data from x-ray evaluations revealed that a single injection of Chrysalin into the fracture gap resulted in a trend toward accelerated fracture healing compared with the saline placebo control. There were no reportable adverse events attributable to Chrysalin in the study.

We completed patient enrollment in our pivotal Phase 3 human clinical trial evaluating the efficacy of Chrysalin in patients with unstable and/or displaced distal radius (wrist) fractures in May 2005. We enrolled a total of 503 study patients in 27 health centers throughout the United States. The primary efficacy endpoint in the trial is to measure how quickly wrist fractures in patients injected with Chrysalin heal, as measured by the removal of immobilization. Accelerated removal of immobilization allows patients to initiate hand therapy and regain full function of their wrists and hands sooner. The clinical trial's secondary efficacy endpoints include radiographic analysis of healing, as well as clinical, functional, and patient outcome parameters. To date, there have been no adverse events related to Chrysalin reported in this Phase 3 trial. We are currently collecting the data for the Phase 3 study and, data permitting, expect to release initial efficacy results in the first half of 2006.

We are also conducting a Phase 2b human clinical trial to establish the lower dose range of Chrysalin versus a placebo control, as well as provide information to support our potential future fracture repair new drug application (NDA). Enrollment is proceeding in the study with a goal of 500 patients in approximately 60 sites. Currently, there are more than 40 sites that are actively enrolling patients and several additional sites are seeking approval from their respective Institutional Review Boards (IRBs) to conduct the Phase 2b trial.

Diabetic Ulcer Healing

Our diabetic ulcer healing studies are focused on healing diabetic foot ulcers, a common problem for diabetic patients. Diabetic patients suffer from open wound foot ulcers because diabetes related nerve damage causes the patient to lose sensation. Patients thus may not notice an injury to the foot and neglect the injury. This and the diminished blood flow to extremities caused by diabetes cause a diabetic patient's wounds to heal more slowly or not at all.

Current standard treatment for diabetic foot ulcer wounds focuses on sanitation of the wound and non-use of the foot to allow for the body's natural healing processes to occur. These treatments require high patient compliance and effectively heal only approximately 33% of these ulcers. Wounds that do not respond to treatment can result in amputation of the affected limb.

We believe topical treatment of the wound with Chrysalin will promote new tissue growth necessary for healing. In 2001, CBI conducted a multicenter Phase 1/2 double blind human clinical trial with 60 patients, the results of which were presented at the Wound Healing Society in May of 2002. CBI found no drug related adverse events or patient sensitivity to Chrysalin in the trial and complete wound closure occurred in 70% of Chrysalin-treated ulcers relative to 33% in placebo controls.

Our preclinical studies and initial Phase 1/2 human clinical trial evaluated Chrysalin as a potential product for diabetic ulcer healing in a saline formulation. We are currently developing a gel formulation for a Chrysalin-based product candidate for diabetic ulcer healing. The start date for our next human clinical trial for this indication will depend on successful completion of the gel formulation work and formulation-bridging preclinical studies, as well as the submission of a formulation amendment and clinical trial protocol to the existing and active Investigational New Drug (IND) application for this indication.

Table of Contents

Cartilage Defect Repair

Cartilage tissue is the smooth, slippery cushion that exists where two bones meet to make a joint. Because damaged cartilage generally does not heal but slowly breaks down over time, the result can lead to a complete wearing away of the cartilage, leading to osteoarthritis.

The primary purpose of exploring Chrysalin's potential role in cartilage defect repair is to develop a technique to restore, rather than entirely replace, the original cartilage damaged due to acute traumatic events. These techniques, if successful, may also provide a novel approach for partial resurfacing of damaged joint (or articular) cartilage due to osteoarthritis. We have completed several steps necessary to submit an IND application for a Chrysalin-based product candidate for cartilage defect repair. Data permitting, we plan to submit an IND to the U.S. Food and Drug Administration (FDA) to begin a human clinical trial for this indication.

Spine Fusion

Spine fusion surgery is most commonly performed to treat degenerative disk disease, spinal instability and other disorders of the spine that are believed to be the cause of back and neck pain. The surgery involves the fusing of one or more vertebrae of the spine by placement of bone graft material around the targeted area of the spine during surgery. The body then heals the grafts over several months, which fuses the vertebrae together with newly formed bone so there is no longer movement between the vertebrae.

The bone used for the graft in this procedure is taken from another bone in the patient, usually from the iliac crest (hip bone) and is called autograft bone. In some procedures the patients and physicians elect to use allograft bone which is bone processed from cadavers. Autograft bone is currently the primary type of bone graft used in spinal fusion surgery. Allograft bone is often used but has not been an effective stand-alone substitute for autograft bone because it has no bioactive component to stimulate bone growth. The benefit of using allograft bone is it does not require a separate surgical procedure from the same patient to harvest the bone for the graft. Recently, a new alternative, bone morphogenic protein (BMP), which does have bioactive properties, has become commercially available as an alternative to autograft bone. While BMP appears to be as effective as autograft in fusing bone, BMP is expensive because it requires recombinant DNA technology to manufacture and currently costs up to \$5,000 per dose. Recombinant DNA technology is a complex, multi-step process that requires growing the BMP proteins in cells in a laboratory, extracting the BMP proteins from the host cells and processing them for distribution to the patient.

Our potential solution to this problem is to combine Chrysalin, either in saline or in a sustained release formulation, with commercially available allograft bone for use in spinal fusion surgery as an alternative to autograft. A recently completed pre-clinical study, which was presented at the North American Spine Society meeting in October 2004 in Chicago, showed that Chrysalin, in several different formulations combined with allograft bone, caused varying degrees of bone formation in spine fusion tests.

Our preclinical studies on spine fusion address questions of safety when the Chrysalin peptide is used for spine fusion surgeries. We are currently collecting data from our pilot Phase 1/2 clinical trial for spine fusion, which completed enrollment in the spring of 2004. We expect to have preliminary results late this summer. To date, there have been no adverse events in this trial that were reported to be related to Chrysalin and patient follow-up has been excellent.

Cardiovascular Repair

Coronary artery disease is the narrowing of the arteries that carry blood through the heart and is a leading cause of mortality in the United States and other parts of the western world. The narrowing is usually caused by fatty deposits inside the artery walls that restrict the passage of blood carrying oxygen to the heart muscle. This oxygen insufficiency is the primary cause of chest pain (commonly referred to as angina) and, if left untreated, can lead to heart failure and, ultimately, death. The most common treatments for the disease are a regimen of pharmaceuticals that reduce the patient's cholesterol (slowing the buildup of deposits along artery walls) and surgical procedures to

Table of Contents

increase the blood flow through the arteries. Up to 15% of patients, however, either cannot undergo the treatments or do not achieve sufficient blood flow after the treatment.

A potentially new treatment for coronary artery disease is therapeutic angiogenesis, the growing of new blood vessels to deliver blood to the diseased heart. In pre-clinical animal studies conducted over the last two years, Chrysalin injections into the damaged heart appear to trigger a complex sequence of events that culminates in the body's growth of new blood vessels, enhancing blood delivery to the heart muscle.

We are evaluating various delivery mechanisms for a Chrysalin product candidate for myocardial revascularization, as well as completing a series of preclinical studies to support clinical development for this indication.

Dental Bone Repair

We have focused on the use of Chrysalin in two dental bone repair situations: dental implants and maxillo-facial reconstruction. For some patients who need dental implants to replace missing teeth, the patient's bones in the jaw are not strong enough to hold the implanted teeth or supporting structure. The standard treatment in these cases is to insert bone graft material into or above the jaw bones and wait for the body to naturally grow bone around the graft material. This process can take a year or longer, during which a patient must use a temporary external plate with the temporary teeth. In a 2004 pre-clinical study done by CBI in conjunction with Louisiana State University, the incorporation of Chrysalin together with a commercially available bonegraft material into the space above a rabbit's jaw bones resulted in a significant increase in new bone formation. This could translate in a shorter wait for patients to complete their dental implant surgery.

Based on CBI's 2004 pre-clinical study, we are evaluating the use of Chrysalin with synthetic bone graft material on maxillo-facial defects to increase bone formation following maxillo-facial reconstruction surgery. Maxillo-facial reconstruction is a surgical procedure to reconstruct the face or head after a traumatic event. We do not have additional studies ongoing at this time.

Ligament and Tendon Repair

Ligaments are the soft tissues that connect bone to bone. Tendons are the soft tissue that connects muscles to bone. Ligaments and tendons are crucial to the biomechanical functions of the body. Injuries to ligaments and tendons are very common, and typically these injuries are treated either conservatively with rehabilitation techniques or with surgical techniques. These injuries are often slow to heal or do not heal completely. Our research is focused on determining if Chrysalin accelerates ligament and tendon tissue repair, resulting in better restoration of function. We are currently completing our first pre-clinical study of Chrysalin for tendon repair in collaboration with an academic institution.

Table of Contents

WHERE YOU CAN FIND MORE INFORMATION

OrthoLogic Corp. files annual, quarterly and current reports, proxy statements and other information with the Securities and Exchange Commission. We have also filed a registration statement on Form S-3, including exhibits and schedules, under the Securities Act of 1933, as amended (the Securities Act) with respect to the securities that we may issue from time to time. This prospectus is a part of that registration statement, but does not contain all of the information included in the registration statement or the exhibits and schedules. You may read and copy the registration statement and any reports, statements or other information filed by us with the SEC at the SEC's public reference facility at:

100 F Street, N.E.
Washington, D.C. 20549

You may obtain information on the operation of the public reference room by calling the SEC at 1-202-551-8090. The SEC also maintains a website at <http://www.sec.gov> that contains reports, proxy statements and other information regarding issuers like us that file electronically with the SEC. Our SEC filings are also available at our website at www.orthologic.com. We have not incorporated by reference into this prospectus the information contained on our website and you should not consider it to be part of this prospectus.

Our common stock is listed on The Nasdaq National Market under the symbol OLGC.

The SEC allows us to incorporate by reference into this prospectus information that we file with the SEC. This means that:

we can disclose important information to you by referring to other documents that contain that information;

the information incorporated by reference is considered to be part of this prospectus; and

any information that we file with the SEC in the future is automatically incorporated into this prospectus and updates and supersedes previously filed information, including information contained in this prospectus.

We incorporate by reference into this prospectus the following documents, and filings we make after the initial filing of the registration statement but before it becomes effective, and any future filings we make with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934 after the date of this prospectus (other than current reports or portions thereof furnished under Item 2.02 or Item 7.01 of Form 8-K) until we sell all of the securities that we have registered under the registration statement of which this is a part:

Our Annual Report on Form 10-K, as amended, for the year ended December 31, 2004;

Our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2005 and June 30, 2005;

Our Current Reports on Form 8-K filed with the SEC on January 4, 2005, February 11, 2005, February 22, 2005, March 4, 2005, April 15, 2005, April 21, 2005, June 16, 2005 and July 8, 2005;

The description of our common stock contained in our Registration Statement on Form 8-A dated January 28, 1993, and any further amendment or report updating that description; and

The description of our Series A preferred stock purchase rights contained in our Registration Statement on Form 8-A filed with the SEC on March 6, 1997, as amended as described in Forms 8-K filed with the SEC on August 24, 1999 and October 20, 2003, and any further amendment or report updating that description.

We will provide to you (including any beneficial owner) at no cost a copy of any and all of the information incorporated by reference into this prospectus and the accompanying prospectus supplement. You may make a request for copies of this information in writing or by telephone. Requests should be directed to:

Table of Contents

OrthoLogic Corp.
Attention: Corporate Secretary
1275 West Washington Street
Tempe, Arizona 85281
(602) 286-5520

If we have incorporated by reference any statement or information into this prospectus and we subsequently modify that statement or information, the statement or information incorporated into this prospectus is also modified or superseded in the same manner. This prospectus incorporates by reference any subsequently filed document.

USE OF PROCEEDS

We intend to use the net proceeds to us from this offering for general corporate purposes, including capital expenditures, working capital needs, current and future clinical trials of our drug candidates, as well as other research and drug development activities. The amounts and timing of the expenditures will depend on numerous factors, such as the timing and progress of our clinical trials and research and development efforts, technological advances and the competitive environment for our drug candidates. In addition, we expect from time to time to evaluate the acquisition of businesses, products and technologies for which a portion of the net proceeds may be used, although we currently are not planning or negotiating any such transactions. As of the date of this prospectus, we cannot specify with certainty all of the particular uses for the net proceeds to us from the offering. Accordingly, we will retain broad discretion over the use of these proceeds.

Funds which are not required immediately for these purposes may be invested temporarily in short-term marketable securities.

Table of Contents

DESCRIPTION OF CAPITAL STOCK

Our restated certificate of incorporation provides that we have the authority to issue 100 million shares of \$0.0005 par value common stock and 2 million shares of \$0.0005 par value preferred stock.

The following is a summary of the material provisions of our common stock and preferred stock. This summary does not purport to be exhaustive and is qualified in its entirety by reference to applicable Delaware law and our restated certificate of incorporation and bylaws, which are incorporated by reference as an exhibit to the registration statement of which this prospectus is a part. See [Where You Can Find More Information](#).

Common Stock

The holders of common stock are entitled to one vote per share on all matters to be voted upon by the stockholders. Stockholders are not entitled to cumulate their votes for the election of directors. Subject to preferences that may be applicable to any outstanding shares of preferred stock, the holders of common stock are entitled to receive ratably such dividends, if any, as may be declared from time to time by the board of directors out of funds legally available for that purpose. In the event of a liquidation, dissolution or winding up of the Company, the holders of common stock are entitled to share ratably in all assets remaining after payment of liabilities, subject to prior distribution rights of preferred stock, if any, then outstanding. The common stock has no preemptive or conversion rights or other subscription rights. There are no redemption or sinking fund provisions applicable to the common stock. All outstanding shares of common stock are fully paid and nonassessable, and the shares of common stock to be issued upon completion of this offering will be fully paid and nonassessable.

The transfer agent for our common stock is Bank of New York.

Preferred Stock

Under our restated certificate of incorporation, our board of directors has the authority, without further action by our stockholders, to issue up to 2 million shares of preferred stock in one or more series and to fix the variations in the powers, preferences, rights, qualifications, limitations or restrictions of the preferred stock, including dividend rights, conversion rights, voting rights, terms of redemption and liquidation preferences, any or all of which may be greater than the rights of our common stock. Our board of directors, without stockholder approval, can issue preferred stock with voting, conversion or other rights that could adversely affect the voting power and other rights of the holders of our common stock. As a result, preferred stock could be issued quickly with terms that will delay or prevent a change of control or make removal of management more difficult. In addition, the issuance of preferred stock may have the effect of decreasing the market price of our common stock and may adversely affect the voting and other rights of our common stock. At present, there are no shares of preferred stock outstanding and we have no current plans to issue any shares of preferred stock.

Preferred Stock Purchase Rights

We have entered into a Rights Agreement, dated as of March 4, 1997, as amended, with Bank of New York, pursuant to which each outstanding share of our common stock has attached one preferred stock purchase right. Each share of our common stock subsequently issued prior to the expiration of the Rights Agreement will likewise have attached one right. Under specified circumstances involving a merger, an acquisition of 15% or more of the outstanding common stock, a tender offer or exchange offer resulting in ownership of 20% or more of the common stock by an acquiring person or a sale of 50% or more of the Company's assets or earning power, the rights will entitle the holder thereof to purchase 1/100 of a share of our Series A preferred stock for a purchase price of \$25.00 (subject to adjustment), and to receive, upon exercise, common shares having a value equal to two times the exercise price of the right. In this prospectus, unless the context requires otherwise, all references to our common stock include the accompanying rights.

Currently, the rights are not exercisable and trade with our common stock.

Table of Contents

Delaware Law

We are subject to the provisions of Section 203 of the Delaware General Corporation Law. In general, this statute prohibits a publicly held Delaware corporation from engaging in a business combination with an interested stockholder for a period of three years after the date that the person became an interested stockholder unless (with certain exceptions) the business combination or the transaction in which the person became an interested stockholder is approved in a prescribed manner. Generally, a business combination includes a merger, asset or stock sale, or other transaction resulting in a financial benefit to the stockholder. Generally, an interested stockholder is a person who, together with affiliates and associates, owns (or within three years prior, did own) 15% or more of the corporation's voting stock.

Certain Anti-Takeover Provisions

Stockholders' rights and related matters are governed by Delaware corporate law, our restated certificate of incorporation (the Restated Certificate) and our bylaws. Certain provisions of the Restated Certificate and bylaws which are summarized below may discourage or have the effect of delaying or deferring potential changes in control of the Company. Our board of directors believes that these provisions are in the best interests of stockholders because they will encourage a potential acquirer to negotiate with the board of directors, which will be able to consider the interests of all stockholders in a change-in-control situation. However, the cumulative effect of these terms may be to make it more difficult to acquire and exercise control of the Company and to make changes in management.

The Restated Certificate provides for the approval of the holders of two-thirds of our outstanding voting stock for a merger or a consolidation with, or a sale by the Company of all or substantially all of our assets to, any person, firm or corporation, or any group thereof, which owns, directly or indirectly, 5% or more of any class of voting securities of the Company (an Interested Person). In addition, two-thirds approval is required with respect to other transactions involving any such Interested Person, including among other things, purchase by the Company or any of its subsidiaries of all or substantially all of the assets or stock of an Interested Person and any other transaction with an Interested Person which requires stockholder approval under Delaware law. The two-thirds voting requirement is not applicable to any transaction approved by our board of directors if a majority of the members of the board of directors voting to approve such transaction were elected prior to the date on which the other party became an Interested Person or certain other conditions are met (the Continuing Directors).

The Restated Certificate provides that each director will serve for a three-year term and that approximately one-third of the directors are to be elected annually. Candidates for directors shall be nominated only by the board of directors or by a stockholder who gives written notice to the Company no later than 20 days before the annual meeting or, in the case of a special meeting, the close of business on the 15th day following the date on which notice of such special meeting is first given to the stockholders. We may have three to nine directors as determined from time to time by our Board, which currently consists of seven members. Between stockholder meetings, our Board may appoint new directors to fill vacancies or newly created directorships. The Restated Certificate does not provide for cumulative voting at stockholder meetings for the election of directors. Stockholders controlling at least 50% of the outstanding common stock can elect the entire board of directors, while stockholders controlling 49% of the outstanding common stock may not be able to elect any directors. A director may be removed from office only for cause and only by the affirmative vote of a majority of the combined voting power of the then outstanding shares of capital stock entitled to vote generally in the election of directors.

The Restated Certificate further provides that stockholder action must be taken at a meeting of stockholders and may not be effected by any consent in writing. Special meetings of stockholders may be called only by the President, a majority of the board of directors or the holders of at least 35% of the outstanding shares of capital stock entitled to vote.

The Restated Certificate provides further that the foregoing provisions of the Restated Certificate and Bylaws may be amended or repealed only with the affirmative vote of at least two-thirds of the shares entitled to vote, unless the amendment is recommended for stockholder approval by a majority of the Continuing Directors. These provisions exceed the usual majority vote requirement of Delaware law and are intended to prevent the holders of less than two-thirds of the voting power from circumventing the foregoing terms by amending the

Table of Contents

Restated Certificate or Bylaws. These provisions, however, enable the holders of more than one-third of the voting power to prevent amendments to the foregoing anti-takeover provisions of the Restated Certificate or Bylaws even if they were favored by the holders of a majority of the voting power.

The effect of such provisions of our Restated Certificate and Bylaws may be to make more difficult the accomplishment of a merger or other takeover or change in control of the Company. To the extent that these provisions have this effect, removal of our incumbent board of directors and management may be rendered more difficult. Furthermore, these provisions may make it more difficult for stockholders to participate in a tender or exchange offer for common stock and in so doing may diminish the market value of the common stock.

Limitations on Personal Liability of Directors

Delaware law authorizes a Delaware corporation to eliminate or limit the personal liability of a director to the corporation and its stockholders for monetary damages for breach of certain fiduciary duties as a director. We believe that such a provision is beneficial in attracting and retaining qualified directors, and accordingly the Restated Certificate includes a provision eliminating liability for monetary damages for any breach of fiduciary duty as a director, except: (1) for any breach of the duty of loyalty to the Company or its stockholders; (2) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law; (3) for any transaction from which the director derived an improper personal benefit; or (4) for unlawful payments of dividends or unlawful stock repurchases or redemptions as provided in Section 174 of the Delaware General Corporation Law. Thus, pursuant to Delaware law, our directors are not insulated from liability for breach of their duty of loyalty (requiring that, in making a business decision, directors act in good faith and in the honest belief that the action was taken in the best interest of the corporation). The foregoing provisions of the Restated Certificate may reduce the likelihood of derivative litigation against directors and may discourage or deter stockholders or management from bringing a lawsuit against directors for breaches of the fiduciary duties, even though an action, if successful, might otherwise have benefited the Company and its stockholders. Further, we have entered into indemnity agreements with all of our directors and officers for the indemnification of and advancing of expenses to such persons to the fullest extent permitted by law. We have also obtained insurance for the benefit of our officers and directors insuring such persons against certain liabilities, including liabilities under the securities laws.

PLAN OF DISTRIBUTION

We may sell the securities offered under this prospectus to or through underwriting syndicates represented by managing underwriters, though one or more underwriters without a syndicate for them to offer and sell to the public, agents or dealers or to investors directly in negotiated sales or in competitively bid transactions.

Underwriters

The relevant prospectus supplement will identify any agents or underwriters and describe their compensation, including underwriting discount. The prospectus supplement will also describe other terms of the offering, including any discounts or concessions allowed or reallowed or paid to dealers and any securities exchanges or automated quotation systems on which any offered securities may be listed.

The distribution of securities under this prospectus may occur from time to time in one or more transactions at a fixed price or prices, which may be changed, at market prices prevailing at the time of sale, at prices related to those prevailing market prices or at negotiated prices.

Table of Contents

Agents and Direct Sales

If the applicable prospectus supplement indicates, we will authorize dealers or our agents to solicit offers by various institutions to purchase offered securities from us pursuant to contracts that provide for payment and delivery on a future date. We must approve all institutions, but they may include, among others:

commercial and savings banks;

insurance companies;

pension funds;

investment companies; and

educational and charitable institutions.

The institutional purchaser's obligations will be subject only to the condition that the purchase of the securities is permitted at the time of delivery. The dealers and our agents will not be responsible for the validity or performance of the contract.

General Information

Underwriters, dealers and agents participating in a sale of securities may be deemed to be underwriters as defined in the Securities Act, and any discounts and commissions received by them and any profit realized by them on resale of the securities may be deemed to be underwriting discounts and commissions under the Securities Act. We may have agreements with the agents, underwriters and dealers to indemnify them against various civil liabilities, including liabilities under the Securities Act, or to contribute to payments that the agents, underwriters or dealers may be required to make as a result of those civil liabilities.

Agents and underwriters and their affiliates may be customers of, engage in transactions with, or perform services for, us or our subsidiary companies in the ordinary course of business.

LEGAL MATTERS

The validity of the securities to be sold pursuant to this prospectus will be passed upon for us by Quarles & Brady Streich Lang LLP, Phoenix, Arizona, counsel to the Company. Legal matters will be passed upon for the underwriters, dealers or agents by counsel we will name in the applicable prospectus supplement.

EXPERTS

The financial statements, the related financial statement schedule and management's report on the effectiveness of internal control over financial reporting incorporated in this prospectus by reference from the Company's Annual Report on Form 10-K have been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their reports, (which reports (1) express an unqualified opinion on the financial statements and include an explanatory paragraph relating to the sale of our bone stimulation device business in 2003 for which the gain on the sale, the results of operations prior to the sale, and any subsequent income recognized related to the sale are included in income from discontinued operations, (2) express an unqualified opinion on management's assessment regarding the effectiveness of internal control over financial reporting, and (3) express an unqualified opinion on the effectiveness of internal control over financial reporting) which are incorporated herein by reference, and have been so incorporated in reliance upon the report of such firm given upon their authority as experts in accounting and auditing.

Table of Contents

PART II
INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution.

The estimated expenses in connection with the issuance and distribution of the securities covered by this Registration Statement are as follows:

| | |
|---------------------------------|-----------|
| SEC registration fee (actual) | \$ 11,770 |
| Printing and engraving expenses | 25,000 |
| Legal fees and expenses | 50,000 |
| Accounting fees and expenses | 50,000 |
| Miscellaneous | 8,230 |
| Total | \$145,000 |

Item 15. Indemnification of Directors and Officers.

Section 145 of the General Corporation Law of the State of Delaware, or DGCL, empowers a Delaware corporation to indemnify any person who was or is a party, or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of such corporation) by reason of the fact that such person is or was an officer or director of such corporation, or is or was serving at the request of such corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise. The indemnity may include expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by such person in connection with such action, suit or proceeding, provided that such person acted in good faith and in a manner he reasonably believed to be in or not opposed to the best interests of the corporation, and, with respect to any criminal action or proceeding, had no reasonable cause to believe such person's conduct was unlawful.

A Delaware corporation may indemnify past or present officers and directors of such corporation or of another corporation or other enterprise at the former corporation's request, in an action by or in the right of the corporation to procure a judgment in its favor under the same conditions, except that no indemnification is permitted without judicial approval if the officer or director is adjudged to be liable to the corporation. Where an officer or director is successful on the merits or otherwise in defense of any action referred to above, or in defense of any claim, issue or matter therein, the corporation must indemnify such person against the expenses (including attorneys' fees) which such person actually and reasonably incurred in connection therewith. Section 145 further provides that any indemnification shall be made by the corporation only as authorized in each specific case upon a determination that indemnification of such person is proper because he has met the applicable standard of conduct (i) by the stockholders, (ii) by a majority vote of the directors who are not parties to such action, suit or proceeding, even though less than a quorum, (iii) by a committee of such directors designated by majority vote of such directors, even though less than a quorum, or (iv) by independent legal counsel in a written opinion, if there are no such disinterested directors, or if such disinterested directors so direct. Section 145 further provides that indemnification pursuant to its provisions is not exclusive of other rights of indemnification to which a person may be entitled under any bylaw, agreement, vote of stockholders or disinterested directors or otherwise.

We have directors' and officers' insurance which provides for indemnification of officers and directors of the Company and certain other persons against liabilities and expenses incurred by any of them in certain stated proceedings and under certain stated conditions. We have also entered into separate indemnification agreements with each of our directors and certain officers that may require us, among other things, to indemnify such directors and

officers against certain liabilities that may arise by reason of their status or service as directors or officers to the maximum extent permitted under Delaware law.

II-1

Table of Contents

Our restated certificate of incorporation provides that indemnification shall be available to the fullest extent permitted by the DGCL for all current or former directors or officers. Reference is made to Item 17 for OrthoLogic's undertakings with respect to indemnification for liabilities arising under the Securities Act.

Item 16. Exhibits.

See the Exhibit Index following the Signatures page in this Registration Statement, which Exhibit Index is incorporated herein by reference.

Item 17. Undertakings.

(a) The undersigned Registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this Registration Statement:

- (i) to include any prospectus required by Section 10(a)(3) of the Securities Act of 1933;
- (ii) to reflect in the prospectus any facts or events arising after the effective date of the Registration Statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the Registration Statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20% change in the maximum aggregate offering price set forth in the Calculation of Registration Fee table in the effective Registration Statement; and
- (iii) to include any material information with respect to the plan of distribution not previously disclosed in the Registration Statement or any material change to such information in the Registration Statement;

Provided, however, that paragraphs (a)(1)(i) and (a)(1)(ii) of this section do not apply if the Registration Statement is on Form S-3 or Form S-8, and the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed with or furnished to the Commission pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the Registration Statement.

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(b) The undersigned Registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the Registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934 and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934 that is incorporated by reference in the Registration Statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

Table of Contents

(h) Reference is made to the indemnification provisions described in Item 15 of this Registration Statement.

Inssofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

(i) The undersigned Registrant hereby undertakes that:

(1) For purposes of determining any liability under the Securities Act of 1933, the information omitted from the form of prospectus filed as part of this Registration Statement in reliance upon Rule 430A and contained in a form of prospectus filed by the Registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this Registration Statement as of the time it was declared effective.

(2) For the purpose of determining any liability under the Securities Act of 1933, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

Table of Contents

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Tempe, State of Arizona, on August 16, 2005.

OrthoLogic Corp. (Registrant)

By: /s/ James M. Pusey

James M. Pusey
*President and Chief Executive
Officer*

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities as of August 16, 2005.

| Signature | Title |
|------------------------------------|--|
| /s/ James M. Pusey | President and Chief Executive Officer (Principal Executive Officer); Director |
| James M. Pusey | |
| /s/ Sherry A. Sturman | Senior Vice President and Chief Financial Officer (Principal Financial and Accounting Officer) |
| Sherry A. Sturman | |
| * | Chairman of the Board and Director |
| John M. Holliman III | |
| * | Director |
| Augustus A. White III, M.D., Ph.D. | |
| * | Director |
| Frederic J. Feldman, Ph.D. | |
| * | Director |
| Michael D. Casey | |
| * | Director |
| Stuart H. Altman, Ph.D. | |
| * | Director |
| Elwood D. Howse, Jr. | |

* By: /s/ James M. Pusey

James M. Pusey, attorney in fact

S-1

Table of Contents

**ORTHOLOGIC CORP.
(the Registrant)
(Commission File No. 0-21214)
EXHIBIT INDEX**

TO

FORM S-3 REGISTRATION STATEMENT

The following exhibits are filed with or incorporated by reference in this Registration Statement:

| Exhibit | Description | Incorporated Herein By Reference To |
|----------------|---|--|
| 1.1* | Form of Underwriting Agreement | |
| 4.1 | Rights Agreement dated as of March 4, 1997, between the Company and Bank of New York, and Exhibits A, B and C thereto | Exhibit 4.1 to the Company's Registration Statement on Form 8-A filed with the SEC on March 6, 1997 |
| 4.2 | First Amendatory Agreement to March 4, 1997 Rights Agreement | Exhibit 10.1 to the Company's Form 8-K filed August 24, 1999 |
| 4.3 | Amendment No. 2 to March 4, 1997 Rights Agreement | Exhibit 4.1 to the Company's Form 8-K filed October 20, 2003 |
| 4.4 | 1987 Stock Option Plan of the Company, as amended and approved by stockholders | Exhibit 4.4 to the Company's Form 10-Q for the quarter ended June 30, 1997 |
| 4.5 | 1997 Stock Option Plan of the Company, as amended and approved by the stockholders | Exhibit 4.3 to the Company's Registration Statement on Form S-8, filed with the SEC on March 2, 2005 |
| 5.1** | Opinion of Quarles & Brady LLP | |
| 23.1 | Consent of Deloitte & Touche LLP | X |
| 23.2 | Consent of Quarles & Brady LLP | (Included in Exhibit 5.1) |

* To be filed as an exhibit to a Current Report

on Form 8-K
and
incorporated by
reference into
this registration
statement, in
connection with
an offering of
the securities.

** Previously filed.