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There's Room for You in Orthopedics

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From the outside, Warsaw, Indiana may seem like an unlikely candidate for being the "Orthopaedic Capital of the World," but it's true. Of the five leading companies in the medical device industry, Biomet, DePuy, and Zimmer have corporate headquarters located here and multiple others have sprung up in support of (or addition to) the "big 3."

The orthopaedic industry is in the enviable position as a projected growth market within healthcare. In fact, according to a February 2009 article published by the American Academy of Orthopaedic Surgeons, "More than 700,000 primary total hip and knee replacements are performed each year in the US, and demand for the surgery is expected to double in the next ten years." In order to support this expected increase, each major orthopaedic business is going to have to expand its scope of innovative products and solutions to meet the growing demand. That's where the opportunities and challenges begin.

In the fall of 2009, the Lilly Endowment in conjunction with BioCrossroads released a detailed report of the challenges facing Warsaw to maintain its position as the global home for this cluster of billion-dollar companies. It wasn't that long ago that Detroit was flourishing as the "Motor City" and raking in profits. Outside challenges and inside arrogance led to its crippled state. To help Warsaw avoid the same fate and combat the identified obstacles, BioCrossroads proposed a non-profit entity called OrthoWorx to support focused initiatives and the Lilly Endowment funded it with a seven-million dollar grant to get it started.

The hurdles are varied and the responsibilities are broad, but there are areas where we can start to make a difference quickly. For the purpose of this white paper, we will be focusing on "Talent Attraction and Retention."

Living and working in Warsaw have some distinct advantages. We have been somewhat insulated from the recent economic downturn. We enjoy a relatively low cost of living and an above average median household income. Warsaw offers wonderful arts, unique restaurants, golf courses, and close proximity to larger cities. A large draw to this area for the employed as well as the retired is the lakes and all the recreation and relaxation that go with lake life. If you live here, these are all apparent. If you're a recruit, the advantages might be harder to spot. This creates difficulty in attracting and retaining top talent to our community. Each of the individual companies faces this same challenge, so we all need to collaborate on a solution. One easy solution is to focus on the local talent that already exists in Kosciusko County schools. We are proposing to groom the next generation of leaders from the students that already call this area home.

There is a strong perception that the opportunities within the orthopaedic cluster in Warsaw are predominately manufacturing or engineering. While these jobs do exist, there are multiple other professions needed. Our objective is to provide a forum to educate and inspire local students to pursue a career in the Orthopaedic Industry.

This educational event will offer junior high school students within the Kosciusko area the opportunity to learn about multiple career paths in orthopedics. This project hopes to show the breadth of career choices in the orthopedic industry within the Warsaw area.

Students from all of the county schools will be invited. These schools include: Warsaw, Wawasee, Tippecanoe Valley, Triton and Whitko. There are approximately 1,200 high school juniors in the county. OrthoWorx would need to work with the various guidance counselors from each school to help coordinate the event.

The event will take place in the spring semester of their junior year before many of the students have made final college or career choices. The hours for the event will be from 9:30 am to 2:30 pm. Each school will be encouraged to attend for at least a 3-hour block of time. It is up to each school to decide which hours would work best to attend. Box lunches could possibly be provided with help from a sponsor, possibly Grace College. Students will be brought by bus to the Orthopedic Capital Center (OCC) on the campus of Grace College in Winona Lake.

The OCC offers over 20,000 square feet of both classroom and exhibitor space. It is a state-of-the-art facility that offers a variety of audio/video/internet technology. The cost to use the OCC would be in excess of $4,000 for the day. This cost could be offset by Grace College. Grace is excited about the opportunity of having over 1,000 perspective college students on campus.

The Main Arena would be used as the primary exhibitor space. It would be divided into various disciplines of the orthopedics industry. This would allow for hands-on activities for the students. Each student will be given a passport when they enter the OCC. As they visit each of the stations, it will be stamped by the exhibitor.

The other classrooms/areas would be used for various presentations, demonstrations and testimonials (live or video).

These spaces include the following:

Main Lobby/Upper Arena: Open Area, 3,000 square feet

Lake City Bank Classroom: Tables for 30 people, 720 square feet

Grady Classroom: Student desk for 50 people, 680 square feet

Large Classroom: Tiered seating for 160 people, 1,280 square feet

For the first year of the event, we are recommending that the exhibitors are limited to the primary orthopedic companies in Warsaw. The goal for future years would be to expand the exhibitors to other orthopedic related companies.

Prior to contacting each of the orthopedic companies, a brief exhibitor's guide should be developed. This guide will provide each company with the event date and location, set-up times, tear-down times, layout for table exhibit space, signage, career paths, along with any other guidelines. Preferably, this guide will be provided to each company's Human Resources Department during a short meeting to discuss participation and goals for the event. No fee will be charged to any exhibitor to participate on that day. We would also invite the companies to

have their Human Resources Department on hand at the event to discuss co-op programs and internship opportunities.

We will ask each orthopedic company to choose from the featured career paths detailed in the exhibitors guide. The hope is that each company attempts to bring employees representing as many of the career paths as possible. It should be encouraged that employers assign employees to pre-determined time frames, to avoid an employee needing to be present for the entire event. Each orthopedic company will be encouraged to bring hands-on educational tools and handouts for engaged student interaction. Every participant should be prepared to discuss formal educational/training requirements. It may be a good idea to have this information on display in each area of the company's booth.

In addition to the orthopedic career paths, we recommend inviting a local orthopedic surgeon and his staff to be at the event. Our hope is that the surgeon leads a live surgery feed in the large conference room for interested students. This event should be optional for students as many could be uneasy with the content of the video. We would also include patient testimonials, showing how joint replacement surgery has changed those people's lives.

We recommend students be provided with a brief informational sheet prior to the event. This information should be provided to the guidance counselor and teachers. This sheet should stress the purpose and agenda for the career fair. On the day of the event, teachers will circulate a passport to each student. The passport will contain sections for all of the career paths being exhibited. Each career path from each exhibiting company will receive a stamp and ink pad for

their area of focus. The goal for the students is to visit as many stations as possible to obtain stamps from each area to complete their passport. This could be tied into a prize system or credit given by the teacher for that period of class.

Human Resources

Every business needs people with skills in managing human resources. The orthopedic industry needs employees with skills in training and developing employees, employee selection and hiring, managing change, and helping employees transition into new roles. Some of the education paths that lead into these HR roles are getting an associate's, bachelor's, or master's degree in business management, human resource management, industrial management, or business administration.

Sales & Marketing

Orthopedic sales organizations work with marketing, regional sales centers, distributors, and direct sales representatives to meet surgeon and hospital needs and the organization’s sales goals. The marketing department consists of a broad range of services including surgeon marketing, consumer marketing, market research, meeting and convention planning, and creative services such as graphic design, illustration, and 3-D animation. Some of the education paths that lead into these sales and marketing positions are getting an associate’s, bachelor’s, or master's degree in marketing, graphic design, computer aided design, or sales management. Companies should consider sales associates to be a part of their exhibit. Orthopedic sales are high-demand careers.

Legal

Orthopedic companies also employ attorneys, paralegals, compliance officers, and other employees that are responsible for maintaining corporate and legal integrity. Education paths for legal positions include obtaining a professional certificate as a paralegal, a bachelor's or master's degree, or a PhD in law.

Product Development

Product development is responsible for designing and developing the new surgical technologies that can improve a patient's life. Some of the job functions that fall under product development include product design, product testing, engineering services such as creating CAD (Computer Aided Design) models and blueprints, and surgeon and nurse training. College degrees in or biomedical engineering programs are typically required for positions in product development.

Manufacturing Engineering

Manufacturing engineering functions are responsible for purchasing equipment and setting up the manufacturing processes to make the orthopedic products used in surgeries. Some of the positions in orthopedics include process engineers, industrial engineers, project managers, CNC and robotics programmers, and tool and fixture design. Positions in these areas typically require an associate's or bachelor's degree in industrial technology or manufacturing, mechanical, or electrical engineering.

Manufacturing

Manufacturing is responsible for producing the final products that will be used in surgeries. There are many processes and materials used to manufacture today's technologically advanced implants and surgical instruments. There are many positions available in manufacturing including manufacturing, assembly, finishing, packaging operators, supervisors, and environmental, health, and safety specialists. These varied positions could expect operators to have good math skills and training in a trade school, to managers who have a bachelor's degree in an engineering discipline.

Maintenance

The maintenance department in a manufacturing facility keeps the facility and equipment running smoothly. Some of the positions include maintenance engineering, equipment maintenance technicians, facility maintenance technicians, tool & die makers, and supervisors. Some of the educational paths into maintenance include plumbing, electrical, and tool & die maker training and apprenticeships, and mechanical and electrical engineering.

Planning, Purchasing and Distribution

Orthopedic companies need to ensure they have all of the products that doctors and hospitals need to restore patients to health. Planners, purchasing agents, and distribution center employees make sure those products are manufactured, purchased, packaged, and shipped to the hospitals in time for the scheduled surgeries. The educational requirements for these positions range from high school diplomas to bachelor's degrees in business administration.

Quality

The orthopedic industry has three areas of quality to ensure the products are manufactured to the exact specifications required for the proper performance of the products. The quality department also ensures that all manufacturing processes and activities meet FDA, ISO, and other regulatory body requirements. There are positions in quality engineering, quality & regulatory assurance, and quality control. In addition to engineering positions, there are inspectors, CMM and inspection equipment programmers, document control specialists, metrology technicians, and microbiologists. Quality managers are looking for employees with educational backgrounds ranging from a high school diploma to an associate's, bachelor's, or master's degree in an engineering, microbiology, or management discipline.

All good ideas have barriers to overcome. We want to recognize the obstacles that could limit the success of our white paper project "There's Room for You in Orthopedics."

Finding an entity to oversee the project could be the first hurdle. Our recommendation would be to have OrthoWorx along with the human resources departments of the major orthopedic companies in conjunction with the high school guidance counselors be the sustaining force behind the program in the future. It is in their collective best interest to see this continue and thrive.

The next issue would be the funding necessary to put on the event. As stated earlier, we would like to see the educational event be staged in the OCC at Grace College in Winona Lake. The cost to rent this venue would be underwritten by Grace, but they would need to see a return

on this investment in order to continue to do this annually. Any further costs could be divided by the major orthopedic companies as this is a potential solution to a shared problem.

Additional cost for the project would be busing students to and from the facility as well as possibly needing to provide them with a box lunch. Currently we are inviting high school juniors, but if this event proves to be successful and expands to other grade levels and persons seeking employment, we could have future funding expenses in the aforementioned area as well as Marketing.

Although not a funding issue, a possible barrier might come from participating companies in the cost of developing an exhibit (if not already produced) and possible loss of productivity at the office level from workers that would volunteer their time to work the exhibits. Although local, events such as these take a lot of corporate support and hours both before, during, and after the event.

The next barrier could be in the school system. Schools will need to be willing to allow the students this opportunity and use the provided information sheet to prepare the students for the educational event. We would recommend that teachers carve out time in an appropriate class. We would like students to arrive with an understanding of what they are going to experience and have prepared questions so they can benefit from the vast amount of information provided in a short period of time. Upon returning to the schools, we would like teachers to spend adequate time discussing what was learned. Not only would this be beneficial to the

students to solidify their thoughts, it could be used as feedback to the event planners that they can use to improve the next year's event.

It is in the interest of Kosciusko County and the Orthopaedic Industry that an event such as this would succeed and allow us to retain our locally grown talent in every potential career.

Works Sited

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AAOS: Orthopaedic Surgeon Shortage Predicted Due to Soaring Joint Replacement Procedures

February 25, 2009