

Innovative Surgical Planning Solution Delivers Precision and Productivity at Busy  
Denver Orthopedic Center

### **Orthocrat's TraumaCad the Choice for Comprehensive Features and Efficient Workflow**

Arthroplasty specialist Hal S. Crane, MD, can see the future—and it has already arrived at Orthopedic Associates in Denver, a 9-physician sub-specialty practice that utilizes some of today's most cutting-edge procedures and counts numerous professional sports teams among its patients.

Innovative and forward-thinking, Orthopedic Associates helped pioneer the concept of surgical "pre-habilitation," which launches rehabilitative regimes prior, rather than following, a procedure, to speed recovery. Currently, the practice is helping to open new horizons in today's "less-invasive" surgeries, delivering faster recoveries and better results. It also was an early adopter of picture archiving communications systems (PACS), which many similar specialists are just beginning to consider.

Not surprisingly, Orthopedic Associates also recently became one of the first freestanding orthopedic centers in the country to trade in its acetate templates, grease pencils and tracing paper—the conventional tools of the trade in orthopedic surgery—for precise, efficient digital preoperative planning with Trauma Cad, an advanced orthopedic software solution from Israeli developer Orthocrat.

#### **Taking Planning to a New Level**

"I'd never go back to conventional methods," says Dr. Crane, who performs a wide range of arthroplasty and reconstructive procedures and has been using the solution for about six months. "TraumaCad's advanced performance and robust features have been a boon for my practice area. Compared to other solutions, it's so sophisticated and intuitive. It takes digital orthopedic planning into a whole new arena."

Dr. Crane points out that the product not only adds efficiency to the practice and streamlines surgical interventions, but also has the potential to enhance outcomes and cuts costs.

Utilizing digital images, a wide range of sophisticated manipulation and measurement tools, as well as prosthetic templates, TraumaCad enables the orthopedic specialists to plan surgical procedures on an ordinary PC. Orthopedists can run through procedures for

deformity correction, joint replacement, simple fractures and can even virtually reconstruct comminuted fractures utilizing the digital software.

The solution offers far more flexibility, precision and efficiency than traditional planning processes. It even compiles a complete checklist of equipment and hardware required, including manufacturers, part numbers and diagrams to ensure all supplies are on hand to help surgeries run like clockwork. Seamlessly integrated with the center's PACS, the leading edge solution is an important focal point of ultra-fast, efficient workflow.

### **A Comprehensive Search**

Orthopedic Associates chose TraumaCad after Dr. Crane conducted a comprehensive evaluation of orthopedic software solutions in his role as medical consultant for the Rose Institute for Joint Replacement for nearby HealthONE Rose Medical Center. An established market leader, TraumaCad is one of a handful of similar products on the market today, and Dr. Crane felt it offered distinct advantages over other solutions.

### **An Advanced Solution**

"It's a truly comprehensive and versatile product with lots of impressive features," says Dr. Crane, who surveyed the market carefully before making his recommendation to Rose after the hospital's implementation of a PACS solution. He notes that other digital orthopedic programs focus primarily on joint replacement, while TraumaCad also offers comprehensive trauma surgery tools and even has a unique application for diagnosing and planning treatment of pediatric and other deformities. It was the only product offering the potential for such broad-based utilization throughout the hospital.

Through his comprehensive product evaluation, the experienced orthopedist also found Orthocrat's solution was extremely easy to use. "TraumaCad is so intuitive that a new user can master the basics and be up and running in less than five minutes. I actually learned to do complex osteotomies digitally during the initial product demonstration ."

Additionally, its robust features and open architecture support seamless integration with any PACS. TraumaCad is the clear choice for any growing hospital that needs a comprehensive solution to see it into the future.

Not surprisingly, after concluding the Rose Medical Center search process, Dr. Crane also chose TraumaCad for his own orthopedic center, which also had recently put in a PACS and was embracing the future with a range of new cutting edge technologies. After using TraumaCad for a several months he is convinced he is completely satisfied with his decision.

"Our office went live with the PACS on a Thursday and took out the film processor on Friday," Dr. Crane explains. "Without films for orthopedic planning, the department was in dire need of a digital solution. The alternative would have been to purchase a costly

digital printer and continue with the outmoded manual process.” Realizing this, the hospital agreed to give Dr. Crane full responsibility for selecting a solution.

### **New Precision and Efficiency in Surgical Planning**

Noting that the product has significantly improved the surgical planning process, Dr. Crane says that he no longer has to rely on tracing bones and manipulating paper patterns. "This was time-consuming, inexact and cumbersome in the operating room, where previously papers were tacked to the wall to guide even the most high-tech interventions."

With TraumaCad, after digital images are bought into the system, using its precise tools, Dr. Crane measures the length, width and angles of the bones involved in the surgery. Next, he makes the intended adjustments digitally to plan the procedure, recording the exact distance and angles of movement. Any necessary hardware is sized, appropriately placed and recorded.

Likewise, digital planning for joint replacements is also much simpler and more precise with digital rather than acetate templates. What's more, in a single click, TraumaCad resolves a major problem in conventional joint replacement planning. "The scale of a patient image and digital template can be significantly different. With large patients, in particular, an x-ray is often greatly magnifies anatomy, and planning with hard copy images and templates is a guess, at best."

TraumaCad changes all that. Because digital x-ray images can be resized and manipulated, they can be calibrated to match the template scale. "Orthocrat does this in seconds. The company really understands orthopedics," says Dr. Crane.

### **Seamless PACS Integration**

A major benefit for both Rose Medical Center and Orthopedics Associates is TraumaCad's seamless integration with their PACS solutions. At Rose, both TraumaCad and Fuji's Synapse PACS are accessible through a single point of entry. After accessing images through the PACS, orthopedists at Rose take advantage of the application's special Fuji interface and simply drag and drop their studies into the TraumaCad workspace. The PACS provides user authentications for both systems.

At Orthopedic Associates, doctors enjoy similar enhanced workflow with the software tightly integrated with their Stryker PACS. At both installations, the surgical plan, complete with images and reports, is automatically saved to the PACS archive for future use. A thin-client, DICOM application, TraumaCad integrates with any network architecture, while delivering a consistent orthopedic work environment over any Web-enabled PC.

### **Immediate Impact**

Dr. Crane recently took advantage of his new digital orthopedic solution to plan a hip replacement for a congenital defect patient. The complex intervention involved placement of a prosthetic ball joint as well as an osteotomy and shortening of the femur—all typical in congenital cases. Accurate, comprehensive planning was completed in just minutes, significantly less time than with tissue paper and scissors.

Similarly, digital planning was ultra-fast and seamless for a recent non-union hip fracture case involving cutting and angling of the bone.

"Another benefit of the system is that we can compare the results of the actual surgical procedure with the digital plan for feedback on our interventions and for physician education," says Dr. Crane.

Currently, other orthopedists performing surgical procedures are beginning to use the technology. Dr. Crane comments: "Even our most computer-phobic doctors would never go back to film."

While the practice is still exploring the full potential of the software's advanced features, Dr. Crane comments: "I can absolutely see that a system like TraumaCad could help improve patient outcomes. Because planning is so much more precise, surgeries can be faster and less invasive, delivering better results. It's a terrific product that is a real leader in its field."

. . . Just like Orthopedic Associates.