

# Royal National Orthopaedic Hospital, UK

## Barco and RNOH advance orthopedic imaging

### Hospital

**Name:** Royal National Orthopaedic Hospital  
**Location:** London, United Kingdom  
**Number of beds:** 220 in patient beds  
**Employees:** 997

### Challenges and opportunities

- Display full leg and full spine images without compromising on quality
- Guarantee maximum uptime in operating theaters
- Help save costs

### Solution

- 23 large-screen diagnostic LCD displays
- Wall-mounted in 8 operating theaters

### Why Barco

- Reference in medical imaging market
- Trusted partner
- Only supplier to offer a display solution that met RNOH's unique requirements

### Benefits

- Filmless from day 1 thanks to high-quality viewing facilities
- Extremely reliable (high uptime)
- Improved efficiency



customer experience

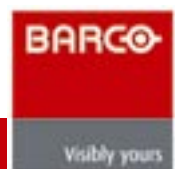
**”** *The Barco display system helps us to achieve our aim: to offer an ever higher quality care to our patients*

*Tim Briggs, Joint Medical Director*

The Royal National Orthopaedic Hospital NHS Trust (RNOH) is reputed to be ‘the jewel in the crown’ of pioneering NHS neuro-musculoskeletal healthcare. As a national centre of excellence, the RNOH constantly strives to provide the best possible care through improvement and innovation.

When the hospital recently installed its Picture Archiving and Communication System (PACS), not just any display solution would do. Barco was the only supplier that could meet the hospital’s complex and unique requirements.

Eight operating theaters were equipped with 23 large-screen diagnostic Barco LCD displays. Barco’s 30-inch displays allow the orthopedic surgeons to visualize an entire area of the body in one high-quality image, from anywhere in the operating theater and even in high ambient light conditions.



# Barco displays flawlessly meet the complex requirements of RNOH surgeons

The Royal National Orthopaedic Hospital – NHS Trust (RNOH), founded over a hundred years ago, is a highly specialized orthopedic hospital in London. With an international reputation, RNOH is continuously pushing the boundaries in treatment, research and education, the hospital focuses on offering its many patients state-of-the-art quality care. Leading-edge technology is, of course, a must. When PACS was introduced, RNOH resolutely opted for a Barco display solution in the operating theatres. Much to every surgeon's appreciation.



## Going Digital

"The RNOH covers many complex areas of orthopedic healthcare. For instance, we have a supraregional bone tumor unit that treats more than 1000 bone tissue tumors per year. We house the largest scoliosis unit in Europe. We have surgeons in every single orthopedic discipline, and we offer specialized rehabilitation for chronic back pain sufferers. Our investments in research are high and we train 15 to 20% of all future orthopedic specialists in the UK," explains Mr. Tim Briggs, Joint Medical Director.

The switch to PACS was carefully planned. "Working with conventional films had become difficult," says Ms. Stephanie Williamson, PACS Project Manager. "First of all, because of the space they take up. For some disciplines such as spinal surgery, for example, the surgeons have to be able to see the whole spine on one image; the films could be up to 90 centimeters in length. Surgeons also have to be able to view multiple images – X-rays, MR scans, CT scans, etc. – side by side. As a result, there were often four or five different sets of images up on the light boxes in the operating theatre."

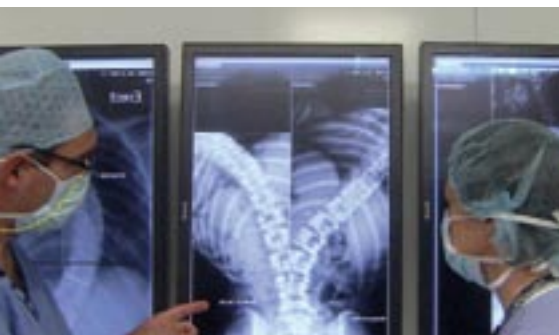
"And space was not the only problem. Using films also involved huge costs. Besides the actual cost of the film, there were the expenses for transport, storage, management, chemical processing, etc. Another major drawback was the turnaround period. In some cases forty two days elapsed between the time the film was taken and the date the radiologist report was made available to the surgeon - far too long. And, now and then, a film got lost along the way."

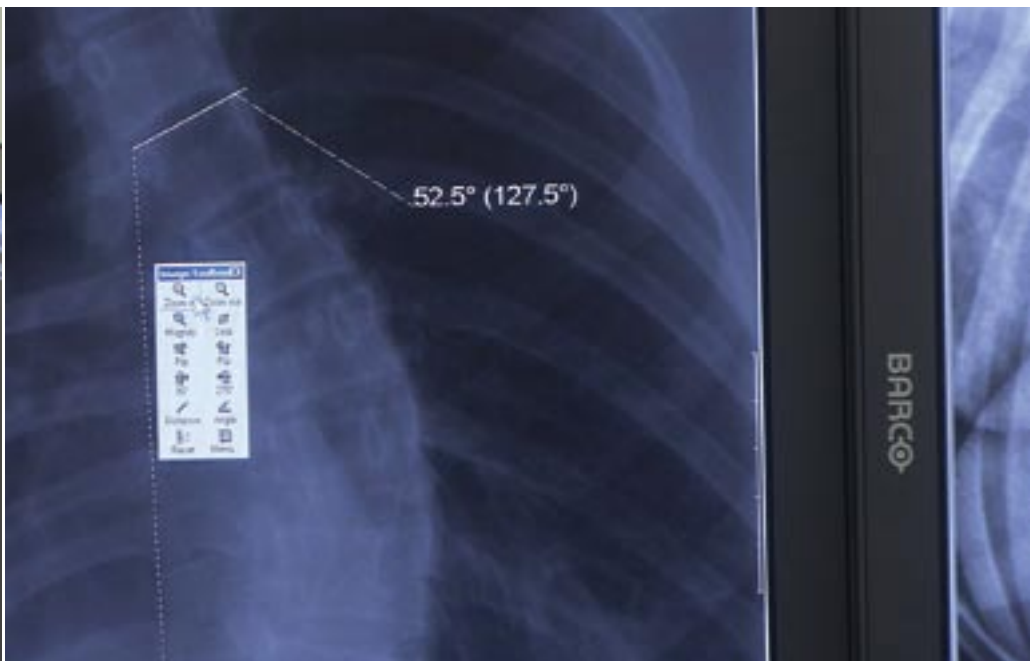
## Complex requirements

"The display solution we purchased for our operating rooms had to fulfill a number of requirements. Firstly, the solution had to be able to display DICOM images. It also had to be easy and quick to install. Since the operating theatres are the powerhouse of an orthopedic hospital, we couldn't afford any downtime during installation. For that same reason, the solution had to be extremely reliable: if the display solution is down, our operating capacity is down," concludes Ms. Stephanie Williamson.

"At the RNOH, we use many challenging and innovative medical techniques that rely on access to accurate information at all times. To allow us to execute complex medical procedures, our new digital display solution had to provide an extraordinary image quality and be able to import several types of images," adds Mr. Tim Briggs.

And there were other requirements. Mr. David Harrison, Consultant Spinal Orthopedic Surgeon explains, "In spinal surgery, my field of expertise, we need a wide range of imaging for diagnosis and surgery. It is also crucial that we can see the whole spine or lower limb on a single high-quality image. And we need to be able to manipulate the images easily and in real-time. A static image isn't always enough. Sometimes you need to flip it or to move it around during the operation."





## A trusted partner

Barco's display solution met and in some cases exceeded RNOH's stringent requirements. Furthermore, RNOH knew the Barco name as a leader in medical imaging, thanks to the company's success in the UK's National Program for Information Technology (NPfIT). "Barco was an obvious choice to ask for a proposal. The demonstration they gave included various options, all suitable for our theatres. It did not take long to convince us that Barco's large, high-quality 30-inch displays were the best choice for us," describes Ms. Stephanie Williamson.

From the demonstration, right through the selection procedure to the implementation, the cooperation between Barco and the RNOH was smooth. Stephanie Williamson praises the strong relationship they had with Barco throughout the entire process, starting with the first demonstration all the way to installing the right equipment.



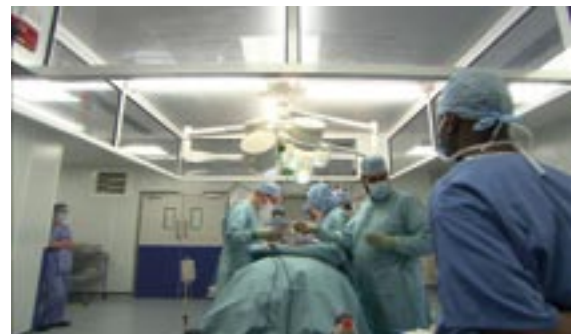
## High-definition view

Quantifying the exact impact of the new display system so early after implementation is difficult. However, the surgeons and staff have expressed great appreciation for the high-quality visualization facilities they now have. "The Barco displays give us a real life-size image of the part of the patient we are about to treat," says Mr. Tim Briggs. "This is extremely important. In my specialty, tumors, for instance, you can readily see a high-definition image of a tumor and the surrounding tissues, which allows for their more precise excision."

"The new display system has really changed the way we work. I've discovered that you can do far more with digital images than with conventional film," Mr. David Harrison adds. "We can constantly vary contrast and brightness, measure angles and distances, etc. The non-reflective Barco displays ensure a clear view of the images, also from a distance and with high ambient light. That allows us to stay next to the patient instead of stepping down to have a closer look, resulting in safer surgery."

## Filmless in the OR

Consequently, the display system has improved safety and efficiency in the operating theatre. The RNOH now has a display solution that meets the clinical needs of its surgeons – a crucial achievement in orthopedic healthcare. And it is saving money: the hospital stopped using films the day PACS became operational. "However, the fact that the new display system meets our surgeons' clinical requirements is definitely the most important benefit," summarizes Stephanie Williamson. Mr. Tim Briggs' conclusion echoes this sentiment: "the Barco display system helps us to achieve our aim: to offer an ever higher quality care to our patients."



## The experts



**Ms. Stephanie Williamson MA**  
*Healthcare Planner & Project Manager 2001-present. Qualified (2006) as a Prince2 project manager, Masters In Leadership in Health & Social Care 2006 from TVU. Dissertation on the barriers to effective engagement with clinicians awarded a merit. Previous employment record includes General Manager for Imaging & Outpatients and Radiographer. Author of 'Professional standards for Radiographers in Independent Practice' published by the College of Radiographers.*



**Mr. Tim W. Briggs MCh (orth), FRCS**  
*Consultant orthopedic surgeon, joint medical director of the RNOH and joint training program director. Specialist in bone and soft tissue tumor surgery, cartilage transplantation, primary and revision hip and knee replacement and rehabilitation. Pioneer of the 'growing prosthesis' which was a winner of the National Health & Social Care Award for best innovative device.*



**Mr. David Harrison FRCS(Eng) MBBS BSc**  
*Specialist in spinal deformity & scoliosis and disc replacement. Zimmer Fellow in spinal deformity 1987-1988, specialist advisor to the Child Growth Foundation. Member of the PACS Project Board.*

## Royal National Orthopaedic Hospital (RNOH)

Located in London, the Royal National Orthopaedic Hospital NHS Trust (RNOH) was founded in 1905 with the amalgamation of London's three specialist orthopedic hospitals. Today, the hospital employs over 900 staff, who provide a comprehensive range of neuro-musculoskeletal services, ranging from the most acute spinal injury or complex bone tumor to orthopedic medicine and specialist rehabilitation for chronic back pain sufferers.

In 2005/2006, the RNOH treated 9,318 inpatients and saw 63,019 outpatients. The RNOH also plays a major role in teaching junior doctors and future orthopedic surgeons as well as nurses and other healthcare professionals.



## Request more information

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