GE Healthcare

OEC Fluorostar* 7900

Use and benefits of a compact configuration in orthopedic procedures

Dr. Wertheimer
Traumatology Surgeon

Hospital Universitari Son Espases
Palma de Mallorca, Spain

The “Universitari Son Espases” hospital is the referral hospital for the population of the Balearic Islands, which offers highly specialized care to 330,000 inhabitants in West Palma and is a recognized center for research and innovation nationwide.
With major innovations in technology and information systems, the new hospital is the most important infrastructure, to date, of the Balearic islands, investing

Fluorostar Compact ...

an initial 235 million euros plus an additional 85 million dedicated entirely to medical equipment and new technologies.

Each year, the group performs more than 2000 interventions, including 850 orthopedic and over 1200 traumatology procedures.

DR. WERTHEIMER

Traumatology Surgeon

At the end of 2010, the need for fluoroscopic equipment in several specializations, including neurosurgery, traumatology and orthopedics traumatology, steered the center towards the OEC Fluorostar 7900 Compact² systems from GE Healthcare. The versatility of the system and its numerous benefits such as compact design, maneuverability and ease of use are helping the traumatology department to provide quality and timely treatment to their patients. Doctor Wertheimer is a Traumatology Surgeon and shares his experience of more than a year using the OEC Fluorostar 7900 Compact².

Dr Wertheimer, what was the main reason for choosing the Fluorostar 7900 Compact?

"The great advantage of Fluorostar is that it is a compact system with integrated monitors; therefore, fewer instruments are necessary in the room. At our hospital, the size of the operating rooms are not large, and the compact x-ray equipment enables us to work more comfortably. Apart from that, there is only one C-arm for our service and we need to move it from one operating room to another, which is easier with Fluorostar."

How does the equipment help you to overcome challenges in your daily practice?

"Usually, the surgeon positions himself on the side of the limb to be operated on, and the C-arm is placed on the opposite lateral side. This set up is optimal since the C-arm and the display screens are facing towards the surgeon."

it goes where you need to go

How is the system used within the departments?

"The GE OEC C-arm is a versatile system in the sense that it can be used for any type of treatment within the specialization. It is very comfortable, for example, for lumbar spine surgery, since just by moving a series of intuitive levers and handles on the C-arm we can obtain different fluoroscopic projections. The same holds for hip surgery since the C-arm fits perfectly well between both legs, and it also works great with the rest of the limbs. "

You have been using the system for more than a year, what are your conclusions about it?

"The system is easy to use, very versatile and you can use it with only one hand. Even surgeons in the sterile field can operate the C-arm on their own without much help."

"The Fluorostar compact system has many advantages in addition to low radiation, and good image quality, it is very versatile, and since it is compact, it is easy to handle and to move from one place to another."

CASE STUDY

A 93 year old male with multiple traumatic injuries following a fall was admitted to the traumatology department. Upon being diagnosed with femoral fractures, he was referred to the traumatology surgeon for treatment. The therapeutic choice was intramedullary nailing. This procedure includes the placement of a nail in the femur connected to a screw in the femur shaft.

This case is particularly challenging because of the constraint of the patient positioning on the orthopedic fracture table due to the multiple traumatic injuries. In addition, the procedure requires continuously moving from Anterior Posterior (AP) to Lateral (L) views with the C-arm positioned between the patient's legs in traction and abduction.

Operative technique:
AP and L fluoroscopic views are required to confirm the correct identification of the entry point.

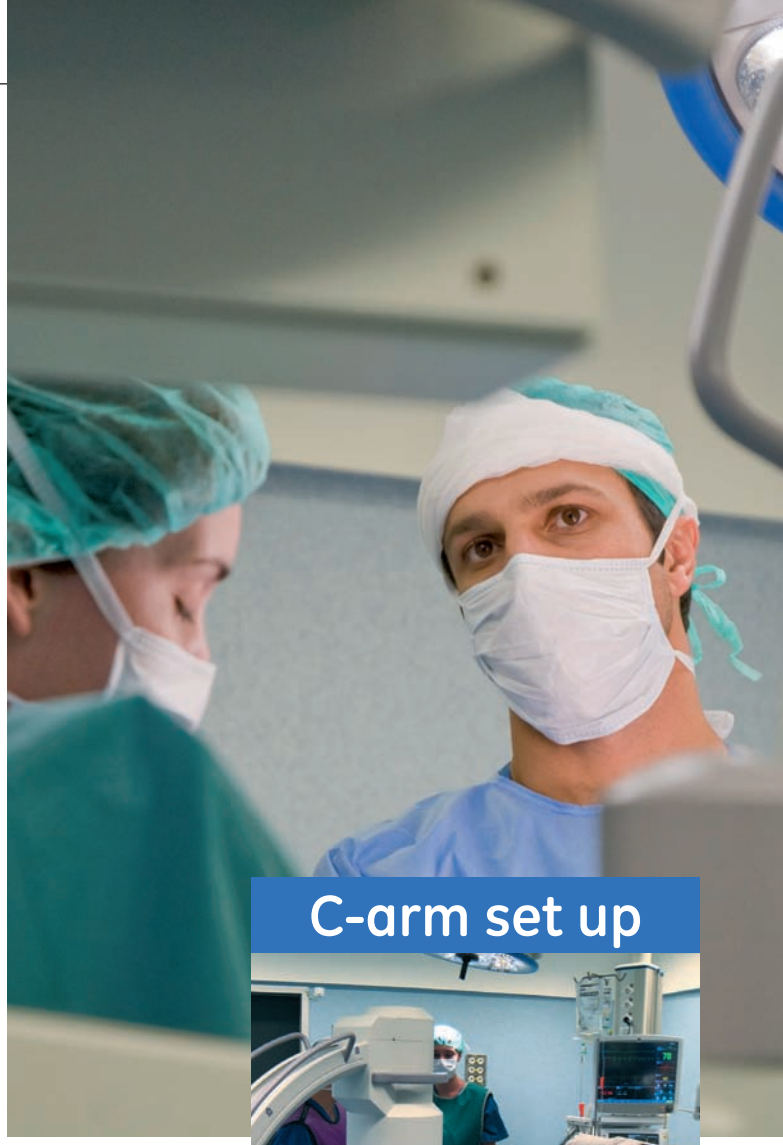
A hole is drilled into the greater trochanter and a guide placed into the medullary canal; this is advanced through a series of AP and L fluoroscopic views.

Following reaming, the nail is inserted. Under L and AP fluoroscopy, careful nail positioning is necessary before drilling, in preparation for the screw insertion. This ensures that the screw will be perfectly aligned to the femoral head and neck.

Screw alignment is guided using fluoroscopy.
Magnification views improve confidence.
If the wire is incorrectly positioned, several iterations of the nail / screw wire alignment might be necessary under fluoroscopy control. Once alignment is achieved, reaming is performed and the screw is inserted.
Final fluoroscopy images are obtained for verification.

"When performing a closed reduction with internal fixation, for a hip fracture, the surgeon is on the side of the hip to be operated on. The C-arm is placed between the legs. The non-operated leg is in abduction. An anterior posterior view and a lateral view can be performed without any need for another person to manipulate the C-arm. The surgeon can handle the C-arm with one hand. Once he has checked the correct alignment of the nail, he can move the C-arm in a wig-wag motion to proceed to the distal locking of the nail. A final fluoroscopic check confirms the positioning of the nail. All this can be performed solo by the surgeon, in our experience."

Dr. Wertheimer
Traumatology Surgeon



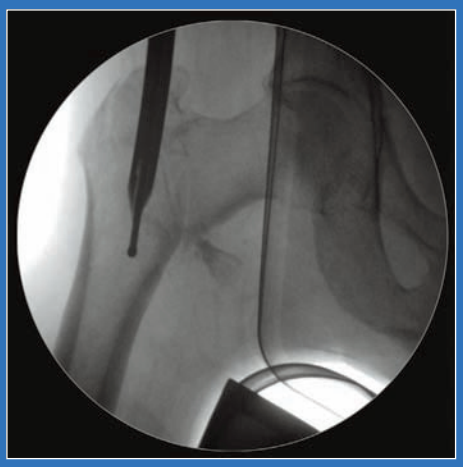
C-arm set up

C-arm on the opposite lateral side, screen facing surgeon

The OEC Fluorostar 7900 Compact² C-arm is positioned between the patient's legs

The compact design maximizes space around the surgical table

C-arm use during the procedure



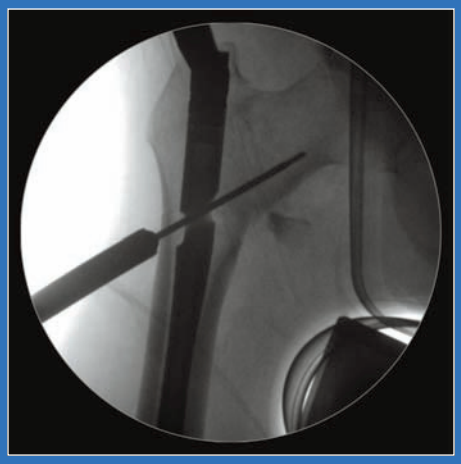
Left: Fluorostar Compact² 19" monitors, positioned on the mainframe, are facing the surgeon when he works.

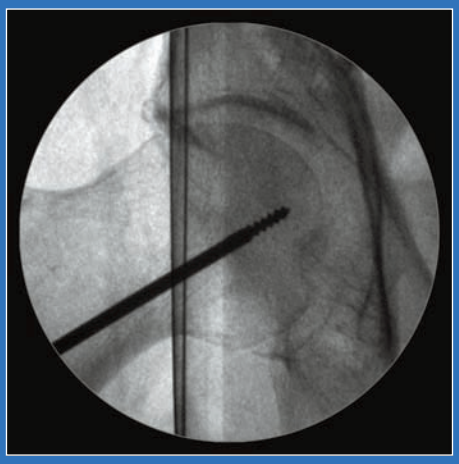
Right: AP control on nail alignment.

Left: Continuously switching between AP and L views all along the procedure.

Right: The surgeon moves the C-arm with one hand to easily position the correct angulations.

Mag view of guide placement in femoral head ▼





Final screw introduction control

Data subject to change.
Marketing Communications GE Medical Systems
Société en Commandite Simple au capital de de 64.475.055 Euros
283 rue de la Minière – 78533 Buc Cedex France
RCS Versailles B 315 013 359
A General Electric company, doing business as GE Healthcare

Dr Wertheimer is an OEC Medical Systems customer and his facility owns an OEC C-arm.

UK
Tel : 0800 0329201

Germany
Tel : 0800 1890461

Austria
Tel : 0800 291888

Italy
Tel : 0800 786947

Spain
Tel : 0900 993620

France
Tel : 0800 908719

Switzerland
German
Tel : 0800 837279
French
Tel : 0800 837279

About GE Healthcare

GE Healthcare provides transformational medical technologies and services that are shaping a new age of patient care. Our broad expertise in medical imaging and information technologies, medical diagnostics, patient monitoring systems, drug discovery, biopharmaceutical manufacturing technologies, performance improvement and performance solutions services help our customers to deliver better care to more people around the world at a lower cost. In addition, we partner with healthcare leaders, striving to leverage the global policy change necessary to implement a successful shift to sustainable healthcare systems.
Our “healthymagination” vision for the future invites the world to join us on our journey as we continuously develop innovations focused on reducing costs, increasing access and improving quality around the world. Headquartered in the United Kingdom, GE Healthcare is a unit of General Electric Company (NYSE: GE). Worldwide, GE Healthcare employees are committed to serving healthcare professionals and their patients in more than 100 countries. For more information about GE Healthcare, visit our website at www.gehealthcare.com.

GE Healthcare
Chalfont St.Giles,
Buckinghamshire,
UK

GE imagination at work