

O-Arm™ 3D Imaging System

Assuring MarinHealth's excellence in complex surgeries that require exceptional precision, accuracy, and flexibility

Funding Goal: \$600,000

When it comes to complex spine and neurological surgeries, in which surgeons must judge where to make incisions, implant hardware, or place other interventions, every fraction of a millimeter counts.

Each year, MarinHealth surgeons perform hundreds of spinal fusions — procedures to stabilize the spine and reduce pain in conditions like spinal arthritis and scoliosis, after removing tumors, or after trauma to the spine. MarinHealth is the only trauma center in the county that treats very complex spinal fractures and spinal cord injuries. To address these conditions, rods and screws must be inserted, placed precisely, and installed carefully into specific areas of bone while avoiding the extremely delicate nerves and spinal cord. The more detailed and accurate the surgeon's view of the surgical site in these complicated scenarios, the better the outcomes for patients.

Over the past decade, such surgeries have become less and less invasive. Imaging systems are continually upgraded to increase accuracy, safety, and efficiency, helping to avoid potentially devastating complications and decrease the patient's time under anesthesia. At MarinHealth, specialists currently perform these procedures using a three-dimensional C-Arm™ — a semi-circle-shaped imaging system that wraps around the patient's body to provide a partial 3D view of the area for surgery. The C-Arm has helped MarinHealth earn a reputation for excellent surgical outcomes, but it has limitations. For example, the C-Arm cannot image through the shoulders to the upper spine, visualize large areas of the spine all at once, or provide optimal image quality through osteoporotic bone. Meanwhile, technology has evolved so rapidly that equipment now available surpasses the C-Arm in precision and accuracy.

Today, many major hospitals in the Bay Area utilize the next generation of 3D imaging technology: the O-Arm (TM). More sophisticated and versatile than its predecessor, the O-Arm is critical to advancing MarinHealth's track record for providing the highest standards of care and treating even more complex spine problems that, in years past, have been referred to UCSF. The cost of an O-Arm is beyond the scope of MarinHealth's operating budget. But with philanthropic support, we can bring the benefits of this superior, next-generation technology to MarinHealth surgeons and their patients today.



"MarinHealth is committed to bringing excellence to every spinal surgery. To continue providing state-of-the-art spine care, we need the most advanced technology available."

— Brian Su, MD,
Spine Surgeon,
Medical Director of
Spine Surgery



"The O-Arm is the gold-standard imaging device for spine and neurological surgeries, making complex procedures safer, more effective, and more efficient."

— Tarun Arora, MD,
Spine Surgeon,
Director of Neurosurgery

Equipment Essential to Providing the Gold Standard of Surgical Care

Widely considered the leading device for complex spine and neurological surgeries, the O-Arm™ is an intraoperative 3D imaging system designed to support today's less-invasive procedures. It is essential for situations where the surgeon needs the clearest, most precise, detailed, and immediate view of the patient's anatomy.

The O-Arm MarinHealth seeks offers a more complete view of the patient's body, including the shoulders, making it useful for a wider range of procedures: spine, cranial, and orthopedics, for adult and pediatric patients. Delivering 3D visibility and precise feedback during surgery, the system provides all the information needed to guide clinical decisions in real time, enabling surgeons to localize interventions within a mere 1 mm margin of error.

By providing clearer, more precise imaging, the O-Arm offers a wide array of advantages. Placing instrumentation during surgery will be faster and more efficient, requiring less time under anesthesia for the patient. With easy access to better images, surgeons will require fewer imaging sets, exposing surgical technicians to less radiation, which can build up over the course of hundreds of procedures per year. And with less need for multiple images, there will be less demand on radiology staff and equipment, freeing up hospital resources.

The new system will be easy to bring onboard. It is compatible with image-guided navigation systems currently used at MarinHealth and requires no special facilities or construction. Similar to a mobile x-ray unit, the O-Arm can be rolled into the operating room as needed. As an added convenience, the current C-Arm will remain in service, available for less complex cases or when two simpler procedures are scheduled simultaneously.

What can philanthropy do?

Today, \$600,000 in funds are available from the medical center's operating budget toward the \$1.2 million required to purchase an O-Arm. Philanthropic gifts totaling \$600,000 will enable MarinHealth to acquire this important equipment. With more than 300 spinal interventions in a typical year, plus neurosurgical procedures that require sophisticated imaging capabilities, a new O-Arm will have a dramatic impact on the MarinHealth community — supporting our talented surgeons and enabling members of our community to get back to their lives more quickly, with excellent outcomes. As robotic technology continues to evolve to support less and less invasive surgery, the O-Arm will enable MarinHealth to stay ahead of the curve, offering the best possible care, right here in the North Bay.

O-Arm™ At-a-Glance

- Gold-standard imaging technology for spine and neurological surgeries
- More detailed and accurate 3D images to guide decisions in real time
- More precise placement of incisions, hardware, and other interventions
- Safer, faster, more efficient procedures
- Less exposure to radiation for patient and care team
- Essential to implementing future advances in robotic surgery

To learn more or make a gift that equips MarinHealth with a gold-standard 3D imaging system to support spine surgery and neurosurgery, please contact MarinHealth Foundation at **1-415-925-7770** or **Foundation@mymarinhealth.org**.