

ORIFZONE  
Creating clinical capacity and capability

ORIF

ORCAMP  
Practise makes perfect!



## Tools for individuals and teams to improve knowledge, skills and workflow

Orzone provides e-learning and advanced simulation technology to support and facilitate clinical training and assessment world-wide.

Orzone partners with Medical societies, hospitals and other healthcare stakeholders to provide solutions which improve the knowledge, skills and professionalism of clinicians accelerating them on their path from student to recognized expert.

Orzone solutions create clinical capacity and capability in clinical staff which increases both patient safety and clinical productivity, and leads to improved clinical outcomes while saving costs.



## Simulation training improves clinical performance

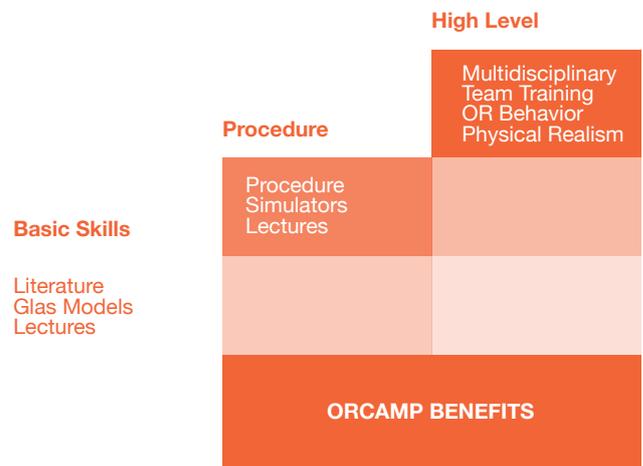
It has also been shown in a report that lack of team communication causes 43% of errors in surgical procedures (1). Validation studies have shown that training on a simulator before entering the operating room and treating real patients is effective and proven in to reduce the probability of medical errors by 6 times and reduce operation time by 29% (2).

ORCAMP is a tool that may help to speed up performance and reduce errors to a minimum.

As ORCAMP enhance skills, procedures and workflow for individuals and teams from brief to debrief is it a dedicated tool ultimate to fine tune clinical capability for improved efficiency and patients' wellbeing.

(1) Analysis of errors reported by surgeons at three teaching hospitals  
Atul A. Gawande, MD, MPH, Michael J. Zinner, MD, David M. Studdert, LLB, ScD, MPH, and Troyen A. Brennan, MD, JD, MPH, Boston, Mass

(2) Virtual Reality Training Improves Operating Room Performance Results of a Randomized, Double-Blinded Study Neal E. Seymour, MD, Anthony G. Gallagher, PhD, [...], and Richard M. Satava, MD



## ORCAMP training solutions – practice makes perfect!

ORCAMP™ – a hands-on skills training solutions in a simulated operating theatre environment with an operating table, C-arm and all control functions.

ORCAMP seamlessly integrates a wide range of different simulation technologies to create the optimal realistic training set-up without necessarily 'trying it out' on real patients in real operating rooms or exposed to real radiation.

ORCAMP simulated operating theatre offers:

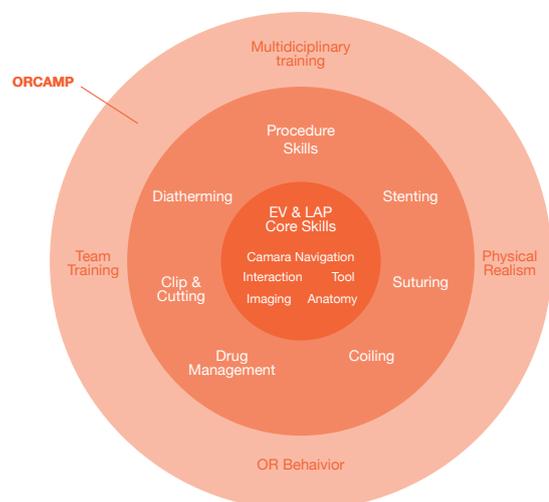
- an engaging interactive way to enhance training
- a large and dynamic library of procedures and patients, with a full range of complications
- a safe and controlled environment for individuals or teams to train surgical procedures
- simulation and practice of high-value, rare and difficult situations
- performance feed-back including video for all actions from brief to debrief for individuals or teams

## Virtual patient simulations in a sophisticated hybrid operating theatre

Hybrid operating rooms are extremely complex working environments where a large team of surgeons, interventionalists, nurses, anaesthesiologists, and technicians need to work seamlessly together.

A hybrid OR brings into the operating room many imaging technologies previously only available in imaging suites outside the OR. In such an OR, both imaging and intervention can be performed along with the nontechnical skills such as teamwork, leadership, communication, awareness and poor decision making.

Orzone's ORCAMP training solution is built to simulate these situations, where the user is given constructive and systematic feedback for the aim of improving medical outcome.



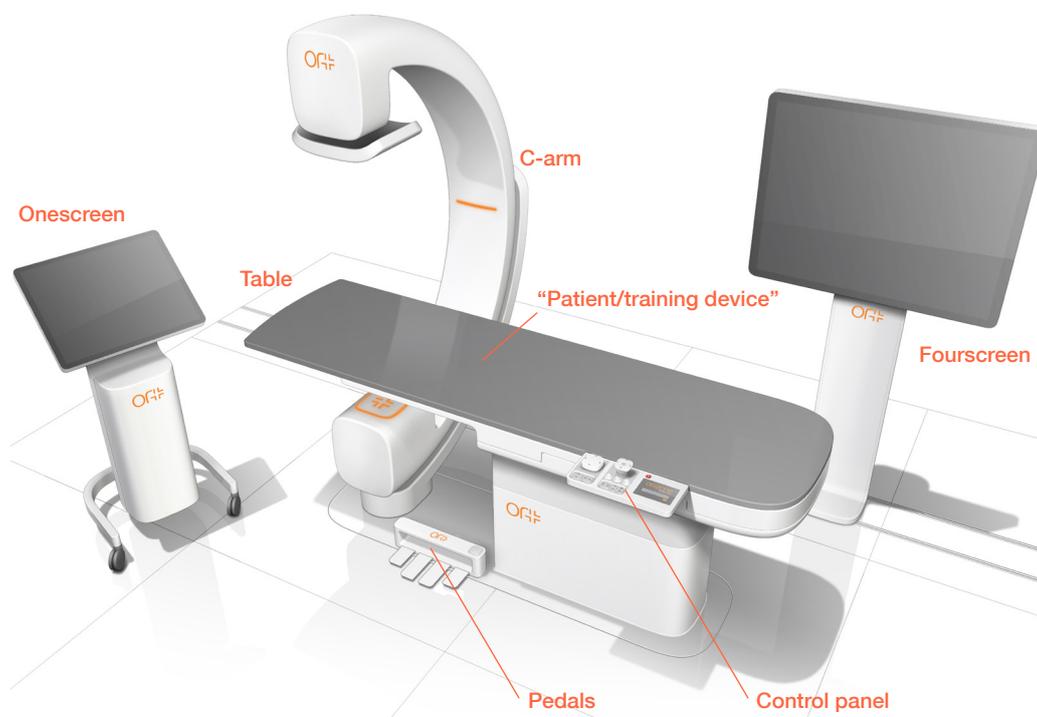
## A fullblown Operating Theatre that fits into a 25m<sup>2</sup> normal office

Non-technical skills (teamwork, leadership and communication) are as important as technical/clinical skills: That is why Orzone have designed and built ORCAMP as a full scale virtual operating theatre.

With ORCAMP set up as a Cathlab it allows to train:

- the whole team working on technical and non-technical skills
- on the full procedure starting from scrubbing to debriefing you participants

- in a high fidelity environment, making the attendees familiar with real controls and operation
- in a patient safe environment with zero radiation exposure due as x-ray is simulated
- and use of real Cathlab tools
- on rare procedures and cases thus making them more confident in approaching any type of case even if you do not have the sufficient case volume required to train all your residents and fellows.



The C-arm & table create the fundament in any hybrid operation room. User interaction is handled by the Control panel and pedals.

A number of screens are available for information display; the Fourscreen for operation and additional

Onescreens may be used as a multiple platform for extended software use.

The realistic possibilities for both table and C-arm movements are table translate, cradle and tilt positions and for the C-arm rotation with different angles. It is possible to move the C-arm to the side if it not used for the procedure.

The C-arm joystick panel is used to move the C-arm in suitable angles.

## Open for a variety of procedures

The system has an open Application Programming Interface (API) which gives the options to integrate most simulation instrument or devices with ease. Different operation procedure scenarios can thus be created depending on which procedures needs to be trained. The unique ORTRAC software takes care of any integration with ease as for instance X-ray, ultrasound, monitors or certainly most simulators. Below are a few of the most common procedure set ups;



Minimally invasive



Endovascular



Emergency medicine



Multidisciplinary  
team training



## Smart, intuitive and easy to handle

The generic control panel is built to mimic real control units from major suppliers. It controls the table, C-arm, imaging functionality's and may be extended with additional customer specific functions. On the touch screen specific screen set ups, fluid injections, image acquisitions and other standard functions may be monitored.

## All parts fully integrated for real workflow practice

The Onescreen is a movable device used for peripheral screens like Ultrasound, ECG and more. This unit can also work as an alternative for external simulators and their GUI interaction and with additional software for procedure planning, briefing, debriefing, step-by-step exercises.

The Fourscreen is used to view fluoroscopic images and videos, ECG and other peripheral information screens. This is controlled by the control panel.

The pedal is often used as a complement to the Control offering easy access to commonly used functions such as DSA, Fluoroscopy, Cineloop and Roadmap.

The computer central of ORCAMP consisting of a 19" rack which holds and provides firewalls, UPS, audio/video mixers and simulator computers. This is the heart of Orcamp and essential for its running.



Image From Top Left: Moveable Onescreen, Fourscreen, Pedals, Operation table/C-arm, Computer Central





## Team training rehearsal from A to Z

### 1. Team Check-in

The mentor informs the team about the specific exercise procedure.

### 2. Team gear up

The team members are assigned specific roles at the procedure and equipped with communication head-sets and appropriate sterile x-ray protective clothing.

### 3. Audience/Next team

Next team in line is used as audience. They may be equipped with mentometers or scoring cards to assess the team's performance. Their role may also include to give suggestions on equipment/tools to be used.

### 4. Team brief

The upcoming procedure is reviewed in ORTRAC and each member receives a specific role. Critical things to consider are mentioned.

### 5. Training session

When the mentor press START all the equipment is turned on and the session starts. If ORCAMP is equipped with video cameras it will record the whole procedure. The ORTRAC learning software records all actions automatically.

### 6. Debrief

For the debrief the team use the large amount of data (and video if available) that has been recorded and stored in ORTRAC. This enables an objective analysis of the team's performance.

### 7. Documentation

All comments and data are stored in ORTRAC. The analysis can be used for feed-back, research and reports. CME credits can be given if target has been achieved.

## About Orzone

Orzone was founded by leading industry experts who have worked with medical training since mid 1990's.

The Orzone team has been an innovative force globally and has experience from over 500 training installations and its use in 200 published scientific peer-reviewed studies.

Orzone focus on new techniques as e-learning and simulation training as these have shown to be more efficient than traditional methods. Studies have show that

online technologies will provide testable conclusions that could improve teaching methods and strategies for both online and in-person instruction. Other studies have indicated that students can learn nearly twice as well as peers taught via traditional lectures.<sup>1</sup> Our digital learning solutions offers an improved flexibility.

We are based in Gothenburg, Sweden and the region is internationally recognized when it comes to technical development specifically with respect on safety.



Image: Software prepared for action, 100 live stations for real medical exams

## ORTRAC learning solutions - simplifying tedious work!

ORTRAC™ is a software platform that makes the process of documenting knowledge, skills and professionalism a simple task.

The ORTRAC intuitive workflow system makes it easy to develop curricula, courses and questions for both formative and summative assessments and generate statistics and analysis.

The user friendly software enables:

- societies to intuitively generate and validate education in multiple languages and locations
- administrators to minimise workload as it tracks and analyses courses, portfolios and accreditations automatically
- clinicians to access it securely anywhere or anytime with full functionality