

Your result: 47.76 (49.00) Good!, press return to continue

SIMULATION RESULTS		Your values (mm, degrees)		Desired	
Total time	1:19.9	0	0	400	0.0
Preparation	0:11	0	0	200	0.0
Wt of patient	0	0	0	3	0.0
Pin placement					
Pin distance	0 mm	0	0	12	0.0
Dist pin length outside cortex	2.0 mm	0.0	0.0	5.0	0.0
From pin length outside cortex	5.0 mm	0.0	0.0	5.0	-0.2
Dist to medial cortex					
Dist to posterior cortex	3.0 mm	4.0	4.0	0	-3.0
Dist to medial cortex	3.0 mm	0.0	0.0	0	0.0
Wedge size dist to 3 mm					
Dist dist to 3 mm	3.0 mm	3.0	3.0	0	0.0
Dist pin dist to 3 mm	4.0 mm	3.0	3.0	0	0.0
From dist to 3 mm	4.4 mm	3.0	3.0	0	0.0
From pin dist to 3 mm	4.4 mm	3.0	3.0	0	0.0
Pin angle with femur (°)					
Dist pin back angular error	127.0 deg	125	120	0	0.0
Dist pin back angular error	-1.0 deg	-20	20	0	0.0
From pin back angular error	3.0 deg	-20	20	0	0.0
Dist pin back length	10.0 mm	10.0	10.0	0	0.0
From pin back length	10.0 mm	10.0	10.0	0	0.0
Dist pin dist below center (°)					
Dist pin tip dist to center (°)	3.0 deg	3.0	20	0	0.0
Dist to center of lat cut (°)	3.0 deg	0.0	4.0	0	0.0
Dist to center of lat cut (°)	3.0 deg	0.0	4.0	0	0.0

(0) = lateral view
(1) = frontal view

TraumaVision is a medical VR simulator, which offers an excellent possibility for tra

TraumaVision®

A medical virtual reality simulator designed for orthopedic surgeries

Simulating Orthopedic Trauma

TraumaVision is a medical virtual reality simulator designed for simulating orthopedic trauma surgeries such as hip fractures and spinal surgery.



Practice makes perfect

The increasing number of fractures that parallels the growth of the elderly population and the evidence that surgical outcomes are related to the number of fracture repairs the surgeon performs, highlights the need for improved training and skills maintenance in Orthopedic trauma.

Furthermore, most orthopedic trauma procedures require fluoroscopy which presents a hazard for all operating room personnel, especially when less experienced surgeons need to use more fluoroscopy to complete procedures than more experienced surgeons.

Many benefits from simulator training

Studies* have shown that surgeons who have trained in simulators make fewer mistakes and operate faster. By using TraumaVision simulator system you can achieve improved clinical outcomes, reduced costs, and ultimately – improved patient safety.

TraumaVision®

TraumaVision is a medical virtual reality simulator designed for simulating orthopedic trauma surgeries such as hip fractures and spinal surgery. TraumaVision includes simulated views of the patient, simulated fluoroscopy, haptic feedback of instruments interacting with tissue and drilling into different bone layers and the system measures numerous performance metrics during a simulated surgery.

TraumaVision includes modules for instrument selection to train the nurses.

The combined score, expressed as the PM score, showed statistically significant differences between the novices and the experienced surgeons.

Pedersen P, Palm H, Ringsted C, Konge L.

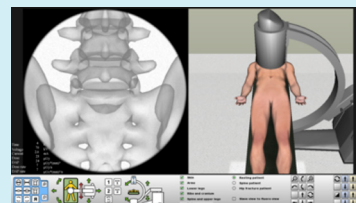
*) Virtual-reality simulation to assess performance in hip fracture surgery. Acta Orthop. 2014 Aug;85(4):403-7.



TraumaVision can be offered portable, using a lap-top computer. The portable version can easily be taken as carry-on luggage.

Realistic view of patient and working area during simulated surgery.

Fluoroscopic view during surgery. The image is presented on the screen as in real operations.



Screen shot showing the user interface of the Fluoroscopy training module.

Training modules

At the present the following training modules are available:

- Femoral Neck Fracture
- Trochanteric Fracture
- Subtrochanteric Fracture
- Femoral Shaft Fracture
- Slipped Capital Femoral Epiphysis
- Spinal Surgery
- Fluoroscopy

Technical Specifications

Simulator software:

- Choice of simulated Fluoroscopy
- Individual performance assessment with grading system (scoring list)
- Ability to develop customized applications
- Fast and intuitive to configure and use
- Session handling with user login

Simulator hardware:

- Touch or Touch X from 3D Systems
- Three degrees of freedom force feedback
- Six degrees of freedom position measurement
- Dual foot-switch for fluoroscopy
- All-In-One Computer
- 27" monitors (2560x1440 px)
- Ergonomic height adjustable table

Haptic device with force feedback that generates appropriate haptical forces in accordance to taken actions.

After the simulated surgery the performance is rated. The result can be saved for later analysis.

The simulator is mobile. The wheels can be locked and it is possible to adjust the height of the monitor as well as the keyboard.

During simulated surgery, a dual foot-switch is used to simulate fluoroscopy. Choose between mono- or bi-plane fluoroscopy.

Swemac develops and promotes innovative solutions for fracture treatment and joint replacement. We create outstanding value for our clients and their patients by being a very competent and reliable partner.

Swemac

Traumavision

Sales and distribution: **Swemac Simulation AB**

Cobolgatan 1 • SE-583 35 Linköping • Sweden

Phone +46 13 37 40 30 • Fax +46 13 14 00 26

E-mail info@swemac.com • www.swemac.com

Print date: 2019-02-05