

# Screen-Based Simulation in Surgical Training: A Modular Approach

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# Background

- ❖ Trans-Urethral Resection of the Prostate (TURP) is seen as the gold-standard treatment in Benign Prostatic Hyperplasia.
- ❖ Gradually declining numbers of operations available to trainees due to improved medical treatments and the onset of the European Working Time Directive.
- ❖ Focused simulation is seen as the natural progression of surgical training – patient safety, control of complications.
- ❖ Simulation training (screen or model based) has had varying degrees of uptake. Issues over cost and reusability as well as access to sites.

# The Modular Course Design



**Simbionix™** **TurpSim™** **VIRTAMED**  
Simulator to Advance Clinical Performance WE SIMULATE REALITY®

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**Teaching**  
**Patients**  
**Simulation**  
**Feedback**  
**History**

Category	Score	Measured	Goal
<b>OVERALL SCORE</b>	<b>186 / 300</b>		<b>65 %</b>
<b>RESECTION</b>	<b>68 / 100</b>		<b>68 %</b>
Property	Score	Measured	Goal
Amount of prostate resected	34 / 50	64 %	>90.0 %
Resection depth score	34 / 50	5	>7.0
<b>ERGONOMY</b>	<b>50 / 60</b>		<b>83 %</b>
Property	Score	Measured	Goal
Intervention time	40 / 40	4 min	<45.0 min
Camera tilted	10 / 10	1 %	<5.0 %
Camera out of focus	0 / 10	57 %	<5.0 %
<b>SAFETY</b>	<b>40 / 70</b>		<b>57 %</b>
Property	Score	Measured	Goal
Cutting while view obscured	20 / 20	3 s	<20.0 s
Tool active when pushing	0 / 20	1.0	0.0
Cuts into sphincter	10 / 10	0.0	0.0
Cuts into verumontanum	0 / 10	1.0	0.0
Cuts into urethral orifice	10 / 10	0.0	0.0
<b>FLUID HANDLING</b>	<b>38 / 40</b>		<b>95 %</b>
Property	Score	Measured	Goal
View obscured	18 / 20	33 %	<30.0 %
Fluid loss	10 / 10	82 ml	<500.0 ml
Fluid consumption	10 / 10	1008 ml	<9000.0 ml
<b>VISUALIZATION</b>	<b>0 / 30</b>		<b>0 %</b>
Property	Score	Measured	Goal
Bladder surface	0 / 10	22 %	>85.0 %
Left urethral orifice	0 / 10	0.0 s	>2.0 s
Right urethral orifice	0 / 10	0.0 s	>2.0 s

**MOVIE REPLAY**



User: advcd ; Date: 2010-5-3, 16:12 ;  
Case: Turp, Easy 1

TURP, Easy 1 | 2010-5-3™ | Print



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# The Simulator



# The Future...

- ❖ Small group numbers
- ❖ Validity of course needs formal assessment
- ❖ Importance of a range of strategies in simulation education
- ❖ Funding
- ❖ Engaged senior workforce
- ❖ Sustainability