



## **Simulation training – a paradigm shift in how doctors are educated and trained**

**Wednesday 6 May, 2015**

Simulation-based learning to acquire and maintain medical and surgical skills has a growing role to play in the training of doctors and surgeons according to visiting Irish University Professor Tony Gallagher.

Professor Gallagher is attending the Royal Australian College of Surgeons 84<sup>th</sup> Annual Scientific Congress (ASC) in Perth this week to talk about surgical simulation for outcome-based training.

“Training must not just be an interesting educational experience. There have been a lot of advances in the past 20 years on how simulation should be used optimally,” Professor Gallagher said.

“Simulation is much more than a technology learning experience for supplanting the traditional approach of repeated practice. Research has shown that simulation works best when it is integrated into a curriculum.

“Learning is optimal when Trainees receive precise (i.e. metric-based) feedback on their performance.

“Metrics should unambiguously characterise important aspects of procedure or skilled performance.

“They are developed from a task analysis of the procedure or skills to be learned. This means we have a detailed understanding of what the surgeon or doctor should do. It also means that we know what they should not do,” Professor Gallagher said.

Professor Gallagher is the head of Technology Enhanced Learning and the Director of Research at the ASSERT for Health Centre in the College of Medicine and Health at University College Cork in Ireland.

Professor Gallagher said that although a simulation-based approach to medical education and training may be conceptually and intellectually appealing, it represents a paradigm shift in how doctors are education and trained.

“The practice of modern medicine has considerably challenged the way doctors and healthcare professionals learn the practice of medicine,” Prof Gallagher said.

He will present new data from a 21-site (USA) prospective, randomised and blinded study by the Arthroscopic Association of North America (AANA) on simulation-based training.

**Media inquiries: Greg Meyer, Manager Communications & Advocacy 0429 028 933 or [greg.meyer@surgeons.org](mailto:greg.meyer@surgeons.org)**

# MEDIA RELEASE



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The results show that orthopaedic surgeon trainees randomised to proficiency-based progression simulation training performed 40 – 60 per cent better (with fewer errors) than two matched control groups.

“This is the largest and best controlled clinical study of simulation-based training ever conducted. The results have important implications for patient safety and what we mean by ‘training’,” Professor Gallagher said.

“Simulation and technology enhanced learning are effective because they offer the opportunity for the trainee to engage in deliberate practice with metric-based performance feedback,” he said.

“It also means that we can ‘quality-assure’ the performance of graduating trainees with an ‘outcome’ rather than a ‘process’ based approach to training.

“The US Food and Drug Administration now requires simulation-based training as part of device approval and the UK Department of Health has issued guidance that appears to suggest that trainees should not be performing a procedure on a real patient the first time they perform the procedure,” Professor Gallagher said.

Over a thousand surgeons from the Royal Australasian College of Surgeons as well as international surgeons from the Royal College of Surgeons of Edinburgh are gathering at the Perth Convention and Exhibition Centre from 4-8 May for a series of workshops, discussions, Plenaries and masterclasses across a broad range of surgical issues.

The ASC brings together some of the top surgical and medical minds from across Australia, New Zealand and the rest of the world and also pays tribute to the centenary of Gallipoli by analysing ethics and developments in surgery over the past 100 years, in war and peace time, as well as exploring what the future may hold in surgical progress.

## **About the Royal Australasian College of Surgeons (RACS)**

RACS is the leading advocate for surgical standards, professionalism and surgical education in Australia and New Zealand. The College is a not-for-profit organisation that represents more than 7000 surgeons and 1300 surgical trainees and International Medical Graduates. RACS also supports healthcare and surgical education in the Asia-Pacific region and is a substantial funder of surgical research. There are nine surgical specialties in Australasia being: Cardiothoracic surgery, General surgery, Neurosurgery, Orthopaedic surgery, Otolaryngology Head-and-Neck surgery, Paediatric surgery, Plastic and Reconstructive surgery, Urology and Vascular surgery.

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