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SKILL MAINTENANCE IN SURGERY

Is learning on the job still viable?

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General and Trauma Surgeon, Alfred Hospital.

Melbourne, Australia.

Injury 2013.







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Overview

Skill Maintenance In **General** Surgery:

- Evolution of Surgery
- Junior Staff:
 - Surgical Education and Training (SET)
 - Hospital Programs
- Fellows:
 - RACS, GSA and NZAGS
 - Resources
 - Simulator and Skills Training
- Challenges for Consultant Staff



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Continuing Evolution of Surgery

- **Surgical techniques developed over the last 25 years**

- Laparoscopic techniques
- Linear cutting staplers
- Non-tension hernia repair with mesh
- Ligasure and Harmonic Scalpel
- Haemostatic agents
- Laparoscopic Gastric Bands
- Sentinel Lymph Node Biopsy
- Single Incision Laparoscopic Surgery
- Etc.....



Continuing Evolution of Surgery

- **Sub-specialisation: Case Load**

- Colorectal Surgery
- Gastrectomy
- Breast Surgery
- Thyroid surgery
- Hepatobiliary-Pancreatic Surgery

- **Public expectation**

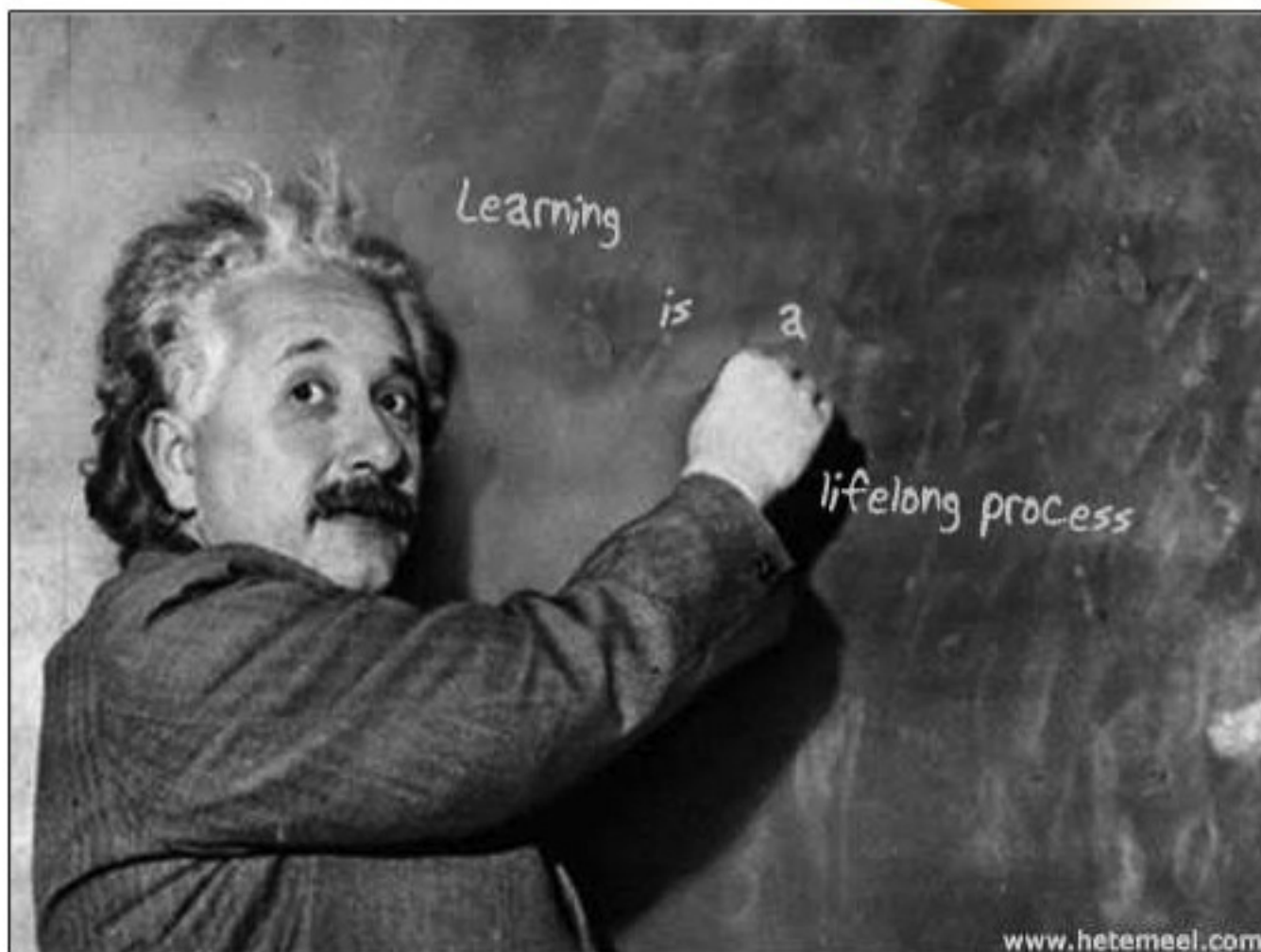
- Highly trained
- Experienced

Surgical Training

- Medical undergraduates
- Interns
- HMOs
- Surgical Education and Training (SET) Program
- Fellowship Programs

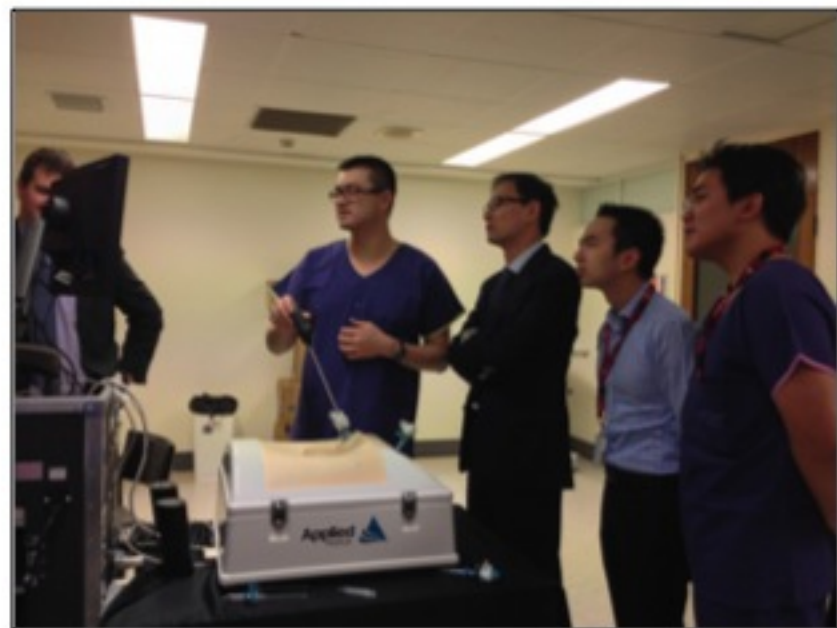


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Surgical Training

- Principles of Adult Learning
- Cognitive:
 - Medical knowledge
 - Decision making
- Skills Training
 - Clinical Examination Skills
 - Technical Skills
- Non-Technical Skills
 - Communication
 - Research literature review and appraisal



Hospital Programs

- Aimed at Interns and junior Resident Medical Officers
- Alfred Hospital: Dedicated Education Officer
- Range of programs available:
 - Weekly Intern Education Program
 - Fortnightly HMO Education Program
 - After Dark Surgical Program
 - Vascular Anastomosis Workshop
 - Basic Clinical Sciences Program
 - Clinical Anatomy Program



Hospital Programs

- Aimed at Interns and junior Resident Medical Officers
- Alfred Hospital: Dedicated Education Officer
- Range of programs available:
 - Orientation Programs: Trauma, Neurosurgery and Cardiothoracics
 - Suturing Master Class
 - Return to Basics: a clinical skills education program
 - Junior Medical Staff Professional Development Program
 - SET Tutorial Program



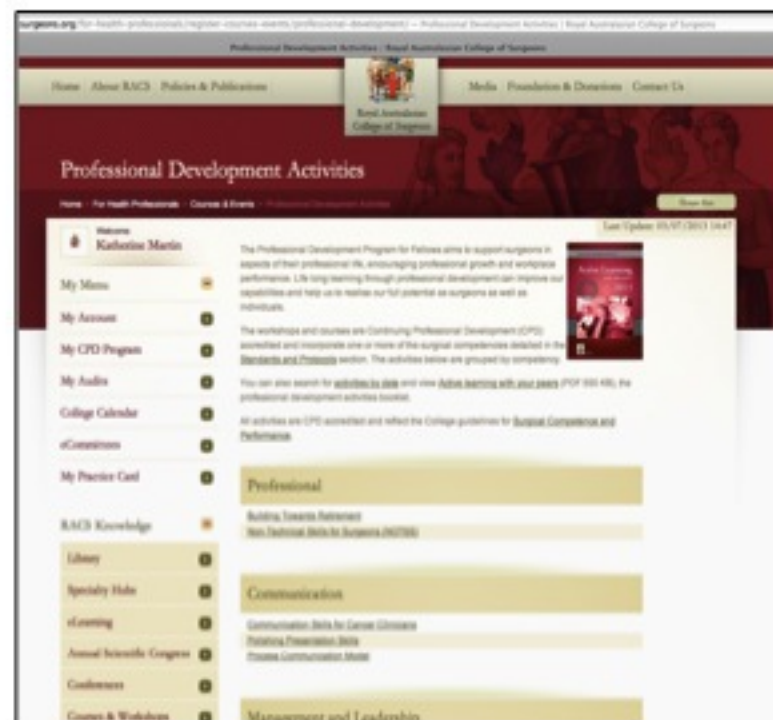
Surgical Education and Training



RACS, GSA, NZAGS



- Courses
- Resources
 - Journal Library etc
- Simulation:
 - Laparoscopic Workshops
 - DSTC
- Assisted and supervised procedural experience
- Assessment





Surgical Education and Training

- Courses:
 - ASSET: Australian and New Zealand Surgical Skills Education and Training
 - CCrISP: Care of the Critically Ill Surgical Patient
 - FLS: Fundamental Laparoscopic Skills
 - CLEAR: Critical Literature Evaluation and Research
 - EMST: Early Management of Severe Trauma
 - DSTC: Definitive Surgical Trauma Care
 - MOSES: Management of Surgical Emergencies
 - TIPS: Training in Professional Skills

Skills Training

- Apprenticeship system complimented by skills training in simulation laboratories
- Skill simulation and training allows for:
 - Minimisation of patient involvement early on in skill acquisition
 - Skill to be practiced repeatedly
 - Student rather than patient focused approach
 - Training to be tailored to the specific needs of the student
 - Faster acquisition of skills due to eliminating the need for ad hoc or fortuitous training opportunities
- Facilitated through the RACS, as well as various universities and hospital throughout Australia and New Zealand

Surgical Supervision

- Supervised practice in an apprenticeship system
- Levels of supervision:
 - Trainee as Primary Surgeon
 - > Surgeon Mentor Scrubbed
 - > Surgeon Mentor in Theatre
 - > Surgeon Mentor Available
 - Trainee as Assistant
 - > Assisting Surgeon Mentor



Surgical Supervision

- SET Requirements:
 - Minimum of 100 major cases every 6 months
 - Minimum % as primary operator (based on year of training)
 - > SET2: 20% then 25%
 - > SET3: 30% then 40%
 - > SET4: 50%
 - > SET5: 60%
- Minimum of 600 major cases prior to sitting for Fellowship Examination
- Minimum of 800 major cases prior to presenting for Fellowship

Surgical Training Assessment

- Supervisors:
 - Head of Unit
 - Hospital Supervisor
 - Hub Supervisor
- SET1:
 - Mini Clinical Examination (Mini-CEX)
 - Direct Observation of Procedural Skills (DOPS)
- SET1-5:
 - Mid-term and End-of-Term Assessment
 - 9 core competencies of Surgeons



SET RACS Assessment

Technical Expertise				N	B	C	E	N	B	C	E
Safely and effectively perform appropriate surgical procedures				Trainee				Supervisor			
- Fails to acquire appropriate skills despite repeated instruction or practice - Too hasty or too slow - Rough with tissue	- Is inconsistent in retaining procedural knowledge/skills - Lacks attention to detail - Hesitant	- Consistently demonstrates acquisition, practice, and retention of sound procedural knowledge, surgical skills and techniques for level of training	- Excellent and specialist abilities in procedures and techniques - Excellent pre-operative preparation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Poor manipulative skills - Poor hand-eye coordination	- Slow in learning new skills - Lapses in dexterity	- Demonstrates manual dexterity required to carry out procedures - Good hand-eye coordination	- Outstanding technician - Fluent and always in control - Meticulous	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Unable to adapt skills and techniques - Skill transfer not apparent	- Ongoing weaknesses - Struggles to adapt skills to different contexts	- Adapts their skills in the context of each patient and procedure	- Extremely good at adapting skills for varying operative situations - Excellent surgical judgement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Lacks enthusiasm and/or initiative to participate and/or learn	- Fails to improve skills and/or learn from experience	- Maintains skills - Effective in learning new skills	- Seeks opportunities to learn new skills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Lacks care and diligence in approach	- Requires close supervision - 'Near enough is good enough' approach	- Approaches and carries out procedures with due attention to safety of patient, self, and others	- Outstanding clinician - Constantly aware and responds to patient, self, and team members - Excellent attention to detail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- As surgical assistant fails to follow operation - Obstructive to operative progress	- Has lapses in concentration - Needs to be prompted to assist effectively	- Follows the operation with guidance from the operator	- Anticipates the needs of the operator and responds accordingly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Ignores/fails to follow up problematic performance - Little recognition of deficiencies in skills or techniques	- Occasionally acknowledges/follows up on problematic performance - Ignores feedback	- Consistently analyses their own clinical performance for continuous improvement - Learns from feedback from others	- Accurate in self-appraisal - Excellent insight - Seeks and accepts criticism and responds appropriately - aware of own skill limitations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



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Junior Medical Staff : In Summary

- Range of Programs:
 - University
 - Intern Programs
 - Hospital Residency Programs
 - RACS courses available to pre-SET trainees and SET trainees
 - SET Program





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Junior Medical Staff : In Summary

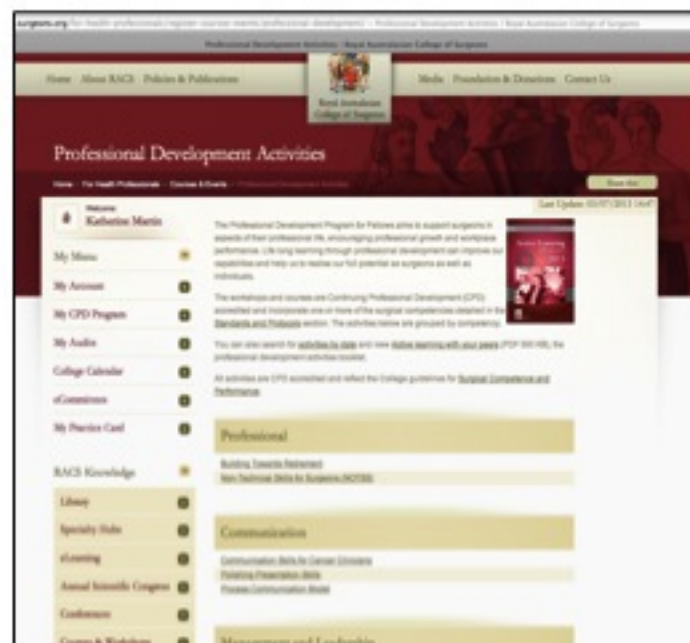
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Fellows



Royal Australasian College of Surgeons

- Continuing Professional Development Program:
 - Outlines requirements for Fellows
- Audits of Surgical Mortality
- Morbidity Audit and Logbook Tool (MALT)
- Recent review of the College website:
 - Many non-technical resources available
 - No technical skills workshops or courses currently listed





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Annual Scientific Workshop

RACS ASC 2013

Royal Australasian College of Surgeons
82nd Annual Scientific Congress

SKYCITY/Crowne Plaza Convention Centre
Auckland, New Zealand

6 – 10 May 2013

asc.surgeons.org



Annual Scientific Program

- Extensive Program

- Lectures
- Scientific Papers
- Master Classes and 'How I do it' sessions
- Trade display with innovative products available for review
- Workshops





New Zealand Association of General Surgeons

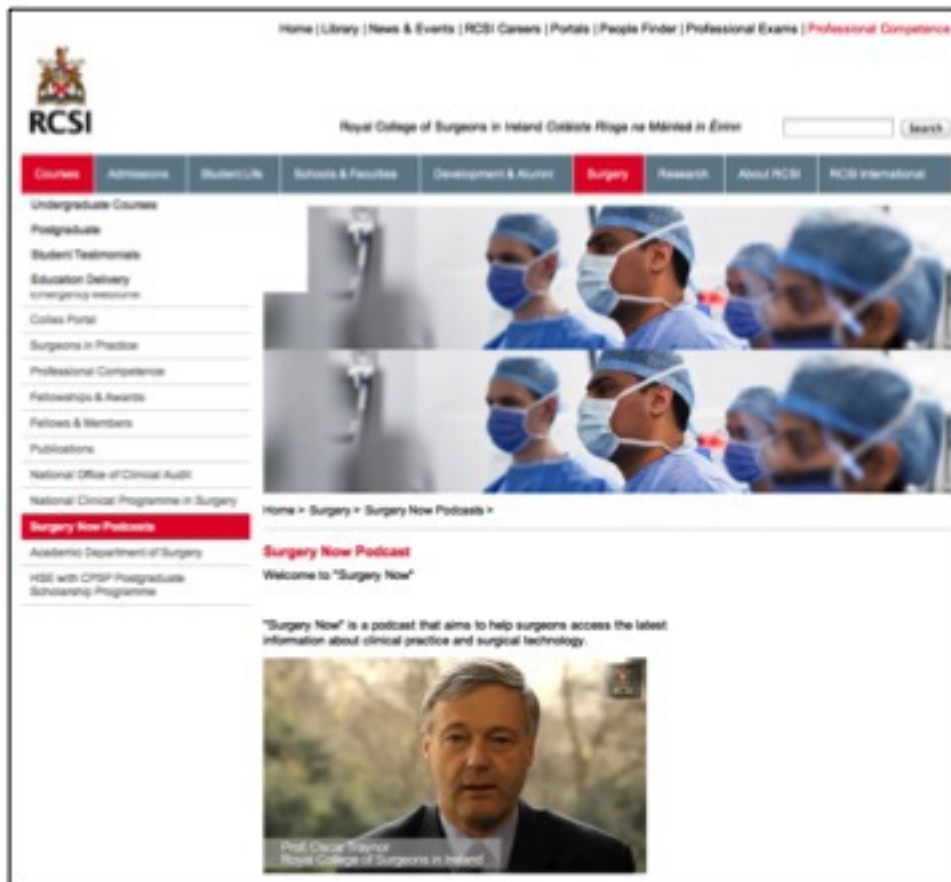
Annual Meeting 2013

Acute Upper Gastrointestinal & Trauma Surgery



Other Resources

- Pod Casts:
Eg RCSI



The screenshot shows the RCSI (Royal College of Surgeons in Ireland) website. The header includes the RCSI logo and navigation links: Home | Library | News & Events | RCSI Careers | Portals | People Finder | Professional Exams | Professional Competence. Below the header is a search bar and a navigation menu with tabs: Courses, Admissions, Student Life, Schools & Faculties, Development & Alumni, Surgery (highlighted), Research, About RCSI, and RCSI International.

The left sidebar lists various resources: Undergraduate Courses, Postgraduate, Student Testimonials, Education Delivery (emergency medicine), Cases Portal, Surgeons in Practice, Professional Competence, Fellowships & Awards, Fellows & Members, Publications, National Office of Clinical Audit, and National Clinical Programme in Surgery.

The main content area features a large image of surgeons in blue scrubs and masks. Below this, the 'Surgery Now Podcasts' section is highlighted. It includes the text 'Home > Surgery > Surgery Now Podcasts >' and a 'Surgery Now Podcast' section with the heading 'Welcome to "Surgery Now"'. A description states: 'Surgery Now' is a podcast that aims to help surgeons access the latest information about clinical practice and surgical technology. Below the text is a video thumbnail featuring Prof. Oscar Traynor, President of the Royal College of Surgeons in Ireland.

Other Resources

- Pod Casts:
Eg RCSI
- You Tube



Other Resources

- Pod Casts:
Eg RCSI
- You Tube
- Industry



The screenshot shows the 'Courses and Symposia' page of the Applied Medical website. The page features a navigation bar with links to HOME, PRODUCTS, EDUCATION, CORPORATE, NEWS & EVENTS, and CONTACT US. Below the navigation bar is a banner image of a classroom setting with the text 'Courses and Symposia'. The main content area is divided into two columns. The left column contains a 'Courses' sidebar with links to GI, GYN, TAMS, and URO, as well as 'Upcoming Workshops' and 'Request/Register'. The right column contains a 'Course Overview' section with a description of Applied Medical's MIS educational training programs, a section for 'GELPOINT SINGLE SITE AND GELPOINT HALS WORKSHOPS', a section for 'SIMULATION WORKSHOPS', and a 'Symposia Overview' section. A small image of a person in a surgical mask pointing at a screen is also visible.

Applied Medical

HOME PRODUCTS EDUCATION CORPORATE NEWS & EVENTS CONTACT US

Courses and Symposia

Courses

- GI
- GYN
- TAMS
- URO

Upcoming Workshops
Request/Register

Symposia

- ACS 2012
- APC 2012
- ACS 2011

Course Overview

Applied Medical offers MIS educational training programs for General, Bariatric, Colorectal, Urologic, and Gynecologic surgeons. Course curricula are developed in partnership with leading surgeons in each specialty, enabling training on the latest advancements in minimally invasive techniques.

GELPOINT SINGLE SITE AND GELPOINT HALS WORKSHOPS

Each Applied minimally invasive training workshop offers a comprehensive didactic session followed by a cadaveric or animate tissue session. Our 2013 calendar focuses on single site and hand access techniques for the General, Bariatric, Colorectal, Urologic and Gynecologic surgeon.

SIMULATION WORKSHOPS

Applied Medical's simulation workshops are designed for residents who are interested in enhancing their skill sets and attaining hands-on experience in a high fidelity simulation platform. On-site simulation workshops focus on hand access and single site approaches, with the ability to measure skills attainment levels using scientifically validated metrics including length of time and economy of movement. Immediate analysis, along with a graphical playback, ensures a sophisticated and educational training experience.

Applied also offers a unique laparoscopic trainer for residents and advanced surgeons wanting to practice new access approaches, Principles of Laparoscopic Surgery (PLS) and single site laparoscopic skill sets.

Symposia Overview

Applied Medical hosts symposia with leading surgeons and healthcare professionals to discuss new surgical techniques and hot topics that can result in significantly improved patient outcomes and reduced costs. Attendees gain insight on clinically proven practices through a didactic session which is often times followed by a hands-on workshop. Applied has sponsored symposia at various congresses such as American College of Surgeons, Association for Professionals in Infection Control and Epidemiology, Inc., American Society of Colon and Rectal Surgeons, Surgical Infection Society and the Tripartite Colorectal Meeting.

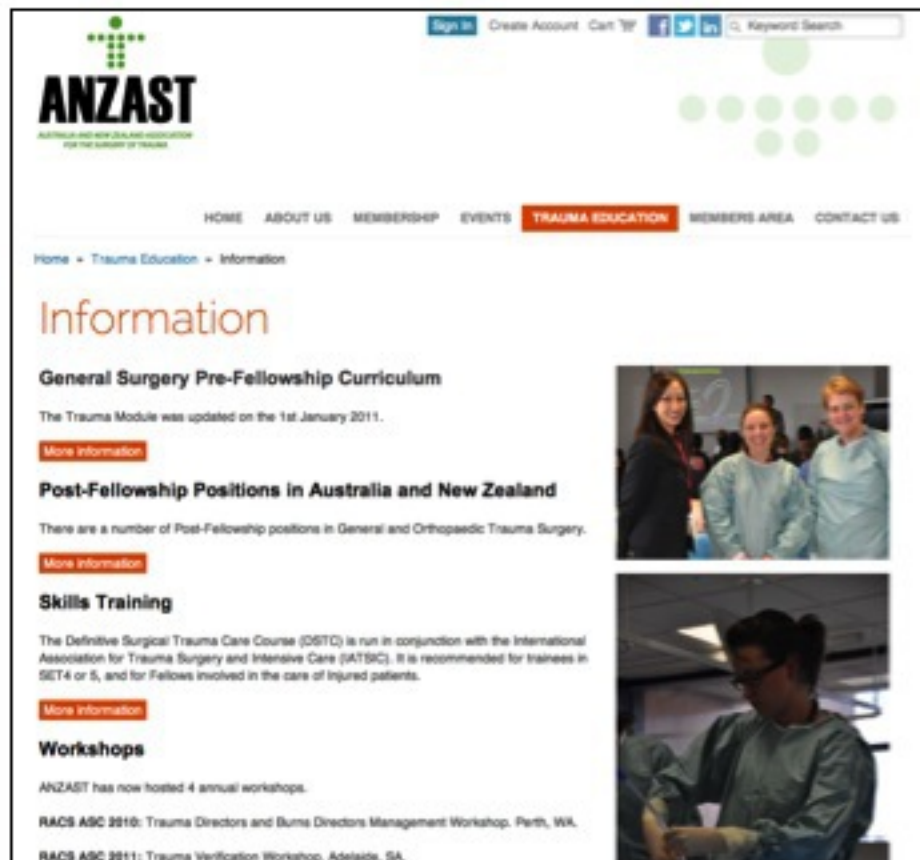
Other Resources

- Pod Casts:
Eg RCSI
- You Tube
- Industry
- Journal online resources



Other Resources

- Pod Casts:
Eg RCSI
- You Tube
- Industry
- Journal online resources
- Specialty Societies



The screenshot shows the ANZAST (Australia and New Zealand Association for the Advancement of Trauma Surgery) website. The header includes the ANZAST logo, navigation links (Sign In, Create Account, Cart, etc.), and a search bar. The main navigation menu highlights 'TRAUMA EDUCATION'. The page content is titled 'Information' and lists several resources:

- General Surgery Pre-Fellowship Curriculum**: The Trauma Module was updated on the 1st January 2011. [More information](#)
- Post-Fellowship Positions in Australia and New Zealand**: There are a number of Post-Fellowship positions in General and Orthopaedic Trauma Surgery. [More information](#)
- Skills Training**: The Definitive Surgical Trauma Care Course (DSTCC) is run in conjunction with the International Association for Trauma Surgery and Intensive Care (IATISIC). It is recommended for trainees in SET4 or 5, and for Fellows involved in the care of injured patients. [More information](#)
- Workshops**: ANZAST has now hosted 4 annual workshops.
 - RACS ASC 2010: Trauma Directors and Burns Directors Management Workshop, Perth, WA.
 - RACS ASC 2011: Trauma Verification Workshop, Adelaide, SA.

Two photographs are included: one showing three people in clinical attire and another showing a person in a surgical setting.



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Other Resources

- Pod Casts:
Eg RCSI
- You Tube
- Industry
- Journal online resources
- Specialty Societies
- Specific Skills Training



iatsic

International Association for Trauma Surgery and Intensive Care

Other Resources

- Pod Casts:
Eg RCSI
- You Tube
- Industry
- Journal online
resources
- Specialty Societies
- Specific Skills
Training
- Update Meetings



Surgical Simulation and Skills Training



Clinical Training and Evaluation Centre (CTEC)

- University of WA
- Cater for all medical and allied health professionals
- Cater for Pre-SET through to senior consultant level

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Core Skills: Advanced Laparoscopic Colorectal Skills Workshop

Thursday 28th November 2013

[Register Here](#)

The Core Skills: Advanced Laparoscopic Colorectal Skills Workshop is designed for Consultant Colorectal Surgeons and RACS Surgical Trainees, SET 4 – 5 in Colorectal Surgery.

This highly practical one day course aims to provide participants with the most efficient techniques for Laparoscopic Colorectal Surgery, including safe colon mobilisation and techniques for vessel control.

This course utilises fresh frozen cadavers which allows participants to practice their skills in a 'Safe' environment, as a prelude to training with mentorship in laparoscopic colorectal surgery.

This course will also feature case scenarios and discussion, whilst also allowing sufficient time for you to practice your skills.

At the conclusion of this course, participants will have gained knowledge and familiarity with two laparoscopic colorectal procedures; Right Hemicolectomy and High Anterior Resection.

COURSE CONTENT
The course focuses on the following tasks:

- Safe Laparoscopic colorectal dissection techniques
- Laparoscopic Right Hemicolectomy
- Laparoscopic High Anterior Resection (Left Hemicolectomy)

CONVENOR
Professor Marina Wallace

SUITABLE FOR
SET 4 – 5 Trainees and Consultants in Colorectal Surgery



What's On



UWA Master Of Surgery

The UWA Master of Surgery (MS) course, offered by the School of Surgery, is a unique and innovative program for junior doctors who are pursuing a career in Surgery. [Click here to find out more](#)

Accreditation

CTEC works with professional associations and peak bodies to offer courses that contribute to the professional development of health care professionals. Some of these bodies include RACGP (C & CPD Program), ACCRIM, ANZCA, RACS CPD Program. [Click here to find out more](#)



Challenges for Consultant Staff

- Sub-specialisation and clinical case load
- Identification of need for training in specific areas:
 - Individual surgeons
 - Hospital administration
- CPD program does not emphasise ongoing clinical skill acquisition and maintenance



Challenges for Consultant Staff

- College-based Skills Training:
 - Only one regular skills-based training facility listed on RACS, GSA and NZAGS websites (CTEC)
- Hospital-based Skills Training:
 - Variable: Geographical and private v's public sector

Access to skill simulation labs and established programs on a regular basis is limited to only a few facilities



Conclusions

- Adult education: well researched and established methods
- Programs exist for junior doctors: both non-technical and technical
- Many non-technical programs exist for consultant staff however skill training is lacking
- Skill programs for consultant staff are possible:
 - Recognise the need
 - Facilitation through College and Specialist Societies
 - Facilitation through private practice and public hospital system

Thank-you!

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