How many surgeons does it take to screw in a lightbulb? One. They just hold the bulb and the whole world revolves around them.
WHAT’S NEW IN SURGERY 2016

• Surgical audit
• Politics of rural surgery/ESS
• Clinical tidbits
WHAT’S NEW - Surgical Audit

• The ideal audit - “The Talk”
• The current realities - “The Walk”
• Positive developments - “The Hope”
Surgical Audit - The Talk

• Processes are prospective, objective, reliable and valid
• Results reported in real time, online and publically
• Results reported for individual and for peer group
Surgical Audit - The Talk

- Focusses on both process and outcomes
- Both subjective and objective
- Applying audit results to “pay for performance” or “privilege” must be done with great caution
- CPD programs, colleagues and administrators reward audit efforts
“CAGS Clinical Practice Committee feels that it is best and most appropriate to ‘start small’ when initiating the use of an audit tool, and that beginning with a modest number of clinical indicators that general surgeons can usefully track is an optimal start”

Surgical Audit - “The Walk”

• New Zealand (Otago)
• “Software for collecting and reporting details of patients, admissions, diagnoses, treatments and outcomes in order to review the performance of a surgical unit.“
• Uptake limited to vascular surgery so far
• Online version available
Surgical Audit - “The Walk”

• RACS (Australia)
• Audit is mandatory for surgical mortality only
• Morbidity analysis available but limited to two areas of practice: breast and upper GI surgery
• Morbidity Audit and Logbook Tool (MALT) - for trainees only
Surgical Audit - “The Walk”

- Tracks surgical site infections only
Surgical Audit - “The Walk”

• Few audit tools readily available at this time, but many in development
• Vast majority of audits are incident-based and institution-based
• Most audits are neither reliable nor valid (eg, infection rates after surgery)

Surgical Audit - “The Walk”

• Most audits findings are communicated quarterly or annually, and are private.
• Most audits are based on surrogate findings (e.g., re-admission rates after surgery).
• Patient/caregiver/coworker satisfaction ratings still a long way off.
“Pay for performance” is still a work in progress regardless of payment system, at the individual and institutional level.
Compared to 10 years ago, we have come a long way. SK - audits of surgical site infections, surgical wait times and hospital mortality outcomes, endoscopy. AB - regular 360 performance reviews. Endoscopy - very limited prospective audit of process or outcome.
Audit: “Build it and they will come”
WHAT’S NEW IN SURGERY - Rural Surgery

• CAGS Rural Surgery Committee
• ESS
WHAT’S NEW IN SURGERY - Rural Surgery

• CAGS (Canadian Association of General Surgeons) Rural Surgery Committee
• Spectrum of representation from large urban academia through community hospitals serving rural communities
• Ostensibly well positioned to provide input on rural issues, and thus weighed in on a proposed Joint Position Paper (JPP) from SRPC (Society of Rural Physicians of Canada)
WHAT’S NEW IN SURGERY - Rural Surgery

• JPP: initiative of SRPC, co-signed by CFPC (College of Family Physicians of Canada), SOGC (Society of Obstetricians and Gynecologists of Canada) and CAGS in 2015

• JPP recognized need for non-specialist surgical care to maintain obstetrical services, and hence for non-specialist surgical practitioners (previously GP Surgery, now Enhanced Surgical Skills/ESS)
CAGS Executive approved the JPP in 2015, but recently released a position paper qualifying, and limiting that approval.

The Rural Surgery Committee will respond to the most recent position paper.
• ESS occupies a place in the spectrum of surgical care between family practice and specialist surgical practice
• Grande Prairie ran a program with U of A
• Prince Albert’s program started in 2007
Enhanced Surgical Skills PGY3 Training for Rural Family Physicians at the University of Saskatchewan:
THE RESURRECTION OF GP SURGICAL TRAINING
Victoria Hospital, Prince Albert, SK

Description

• A new R3 program of the University of Saskatchewan Academic Family Medicine Department, the ESS program consists of one year of post-graduate training by general surgeons and obstetricians in a select set of general surgical and obstetric skills, and clinical decision making. Six months are formally dedicated to each service. Upon completion of the required 52 weeks of training a successful trainee will receive a diploma in general surgical and obstetric skills from the University of Saskatchewan. A letter from the Health Care Facilities Credentialing Committee of the College of Physicians and Surgeons of Saskatchewan certifies the trainee’s completion of the required procedures and knowledge. (See Table 1 CURRICULUM)

Background

According to a 1999 working group of the Society of Rural Physicians of Canada, “rural hospitals which are able to offer essential anesthetic and surgical services play a critical role in sustaining medical care...in their communities.” This group published recommendations that competency based rural family medical training is necessary in GP anesthesia, advanced maternity care including Caesarean sections, and GP surgery is to be established to respond to the critically reduced number of rural Canadian communities able to provide emergency and obstetrical services as a result of a drastic shortage of GP surgeons.

Dr. Stuart Iglesias called for action in his recent paper ‘What We Need: ESS to meet the Canada-wide need for GP surgeons. Dr. Iglesias called for action in his recent paper ‘What We Need: ESS to meet the Canada-wide need for GP surgeons.

Table 1. CURRICULUM

<table>
<thead>
<tr>
<th>Procedures</th>
<th>Core</th>
<th>Elective</th>
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<tbody>
<tr>
<td>Obstetrical</td>
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<tr>
<td>Cesarean section, appendectomy, endoscopy, and anesthesia by GP surgeons, have growing literature support. The safe outcomes of GP Surgeons in part reflects their inclination and ability to refer more complicated cases. There is no published evidence in the world literature that outcomes for GP Surgeons in these small volume rural surgical programs are less safe than for specialist surgeons in programs with larger volumes.</td>
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EVALUATION: logged procedure portfolio + ¼, ½, ¾ and final year competency based evaluations


“During my second week on the obstetrical ward we received a labouring multihy, at week 39 of a normal pregnancy, from an isolated northern community. At her home hospital prior to transfer she had mild pre-eclampsia and the fetal heart rate was reassuring. The baby did not survive the 3 hour ambulance ride. What if someone with C-section skills had been at this outpost centre?” ESS resident

Future Possibilities

• Development of other GP Surgery training programs elsewhere in Canada?
• Yearly MoComp CME with GP surgeons Canada-wide?
• Re-population of rural Canada with GP Surgeons?

CONTACT

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Thank You

The surgeons and obstetricians of Prince Albert, SK

Table 2. Relationship of ESS Residency to CanMEDS core competencies of the Royal College of Physicians and Surgeons of Canada

| Canada 2003 Competency | ESS Residency
<table>
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<tbody>
<tr>
<td>Medical Expert</td>
<td>Development of unique appreciation of rural patient, transport, patient, family health care worker isolation, delays in patient care, development of unique appreciation of the effects the lack of surgical capacity on patient outcomes in rural areas, opportunities to educate urban colleagues and medical students re: rural/remote careers, and GP Surgery or GP Anesthesia careers</td>
</tr>
<tr>
<td>Communicator</td>
<td>Learn patient assessment/intervention in ER, OR, wards, clinic and rural family clinics</td>
</tr>
<tr>
<td>Scholar</td>
<td>Development of unique appreciation of rural and remote care conditions such as patient transport, patient, health care worker isolation, delays in patient care, development of unique appreciation of the effects the lack of surgical capacity on patient and family outcomes in rural areas, opportunities to educate urban colleagues and medical students re: rural/remote careers, and GP Surgery or GP Anesthesia careers</td>
</tr>
<tr>
<td>Professional</td>
<td>Development of sensitivity to a wide range of cultural, educational, and political factors affecting access to care in rural areas</td>
</tr>
</tbody>
</table>

References

3. Irwin, A. M., Saunders, R., and Collin, F. “Rural hospitals which are able to offer essential anesthetic and surgical services play a critical role in sustaining medical care...in their communities.”3 This group published recommendations that competency based rural family medical training is necessary in GP anesthesia, advanced maternity care including Caesarean sections, and GP surgery is to be established to respond to the critically reduced number of rural Canadian communities able to provide emergency and obstetrical services as a result of a drastic shortage of GP surgeons.

Contact

Dr. Brian Geiser: Program Director Enhanced Skills, U of S
tbgeller@yahoo.ca
Vikki Vogt: Program Co-ordinator ESS
vikvolg@yahoo.com
• Resources provided by Rural Family Med at U of S (Prince Albert)
• RCCBC/UBC and U of A keenly interested
• SRPC support led by Dr. Stu Iglesias
WHAT’S NEW IN SURGERY - ESS

• CFPC accepted ESS as an official area of additional competence (2014-15)
• Original curriculum designed in Prince Albert, with ongoing revisions including surgical ITER (In-Training Evaluation of Resident)
• A curriculum working group reworked a draft for publication in *CJS* (2015)
• A network model of surgical care was also proposed in *CJS*
• Based on research by Jude Kornelsen and Stephan Grzybowski (UBC Fam Med)
• Places the ESS surgeon within a regional surgical program, as a colleague
• Refinement of curriculum: CBL/CBD, affiliation with CESEI at UBC
• Development of final summative assessment process: U of S
• Definition of relationship with specialty surgeons: clinically via networks, administratively via “Secretariat”
WHAT’S NEW IN SURGERY - ESS

- Development of a research agenda
- Development of exam/certification process
- Establishment of a joint Secretariat (eg, SRPC, CFPC, CAGS, SOGC, RCPSC, ?U of S, ?RCCBC) to enable sustainable collaboration among societies
• Come to the SUMMIT tomorrow to find out and to determine the future of rural surgery in Canada
"You're fired, Jack. The lab results just came back, and you tested positive for Coke."
WHAT’S NEW IN SURGERY -

• Argon plasma coagulation or APC is an endoscopic procedure used primarily to control bleeding from certain lesions in the gastrointestinal tract.

• A jet of ionized argon gas (plasma) is directed through a probe passed through an endoscope.

• Electric current is then conducted through the jet of gas, resulting in coagulation of the bleeding lesion.
Argon plasma coagulation or APC is an endoscopic procedure used primarily to control bleeding from certain lesions in the gastrointestinal tract.
WHAT’S NEW IN SURGERY - Hemospray

• **Hemospray**: a novel proprietary inorganic powder, which achieves hemostasis by adhering to the bleeding site, which leads to mechanical tamponade and, by concentrating and activating platelets and coagulation factors, promotes thrombus formation

• It contains no human or animal proteins or botanicals and has no known allergens. Hemospray is metabolically inert and deemed nontoxic, systemically or otherwise
WHAT’S NEW IN SURGERY - Hemospray

• “The high rates of both acute hemostasis and recurrent bleeding suggest that Hemospray may be used in high-risk cases as a temporary measure or a bridge toward more definitive therapy.” *Gast & Hepat* February 2014, Volume 28 Issue 2: 72-76

WHAT’S NEW IN SURGERY - Hemospray

• E.g.,

Hemospray® by COOK
WHAT’S NEW IN SURGERY - Endoclot

AMP & Endoclot™
by Endoclot Plus, inc (EPI/RMS)

• AMP = absorbable modified polymers
• Purified and modified plant starch is modified into polysaccharides
• Not animal, not human
• It is degraded by human amylase
• Contra-indication: allergy to potato starch
• **Politics:** who owns this technique?
• **Training:** FES (Fundamentals of Endoscopic Surgery - SAGES) *or* FEC (Flexible Endoscopy Curriculum - American Board of Surgery)
• **Audit:** tools in development, consensus?
• **Economics:** screening, availability in rural areas
• UBCs Global Surgery program
• WHO: recognition of central role of surgery in maternal care, in trauma care and in validating overall programs
• Reality check: “Dead Aid”; “The White Man’s Burden”; good intentions are often harmful if not connected to respect for local history and culture, and if not sustainable (substitutionary vs. enabling aid); primary requirement is humility
• Can-Health initiative: CESEI online medical/surgical education
WHAT’S NEW IN SURGERY - International Surgery
Did you know that kids in North America are forced to sit in class rooms all day. And if they move around, get excited or make too much noise, they are given drugs to keep them quiet. Their main source of exercise is playing video games, and most of their food is fake and full of dangerous chemicals.

That’s terrible! We should take up donations for them.
WHAT’S NEW IN SURGERY - Geriatrics

- **CBD stones in the elderly**
- Cochrane review - untreated stones result in high morbidity and increased mortality; cholecystectomy still the best option, and if not possible, ERCP, etc.
- Surgical versus endoscopic treatment of bile duct stones *Cochrane Rev* Dec 2013

- **Homeostenosis concept:** frailty on a physiological level
WHAT’S NEW IN SURGERY - CBD Imaging

- **Operative cholangiography**: outdated or underutilized?
- IOC: 5-15 min, radiation <1 min, $250-450, negligible risk
- ERCP: 15-60 min, radiation > 1 min, >$1000, 0.1% mortality
- MRCP: 1-2 hours, no radiation, >$500, negligible risk, travel
- Patient preference vs. surgeon preference?
WHAT’S NEW IN SURGERY - CBD Imaging

Schematic

Image
• Simulation replaces “see one, do one, teach one”
• Audit now part of each trainee’s training, partly to satisfy numbers-based criteria, partly to develop skills in audit
WHAT’S NEW IN SURGERY - Imaging for suspected appendicitis

• Validation of utility and safety of clinical judgment
• Experience or its analogue, a clinical scoring tool or system
• Alvarado score validated repeatedly
WHAT’S NEW IN SURGERY - Imaging for suspected appendicitis

- Radiation basics: milliSievert (mSv) measures radiation damage
- Annual maximum (industry): 20 mSv
- 5 year accumulated maximum: 50 mSv
- CT abd/pel w and w/o C: **20 mSv**
WHAT’S NEW IN SURGERY - Imaging for suspected appendicitis

• 1/2000 such scans = cancer induction!
• Immediate vs. stochastic risk
• Mortality of laparoscopy 3.3/100,000

• Surgical complications of diagnostic and operative gynaecological laparoscopy: a series of 29,966 cases.
WHAT’S NEW IN SURGERY - Imaging for suspected appendicitis

• Recent trends toward routine imaging, usually CT
• Recognition of radiation risks for young and WOCBA, so U/S first
• MRI has some utility, but availability?
WHAT’S NEW IN SURGERY - Surgical Training

Traditional program
• Time-based
• Retrospective
• Preceptor-focussed
• Subjective/implicit

Competency-based
• Ability-based
• Prospective
• Learner-focussed
• Objective/explicit
• Curriculum design: even in generalist practice, very specific details regarding knowledge and skill acquisition are incorporated into design
• SCORE Curriculum (ABS): Outline is 63 pages long, 128 online modules available so far
• Assessment of technical skill still more difficult, but use of OSATS improves reliability and validity of assessments if done repeatedly over time with different preceptors
Acute care surgery: pros and cons

Pros: lifestyle improvement, OR efficiency
Cons: handovers, potential skills loss