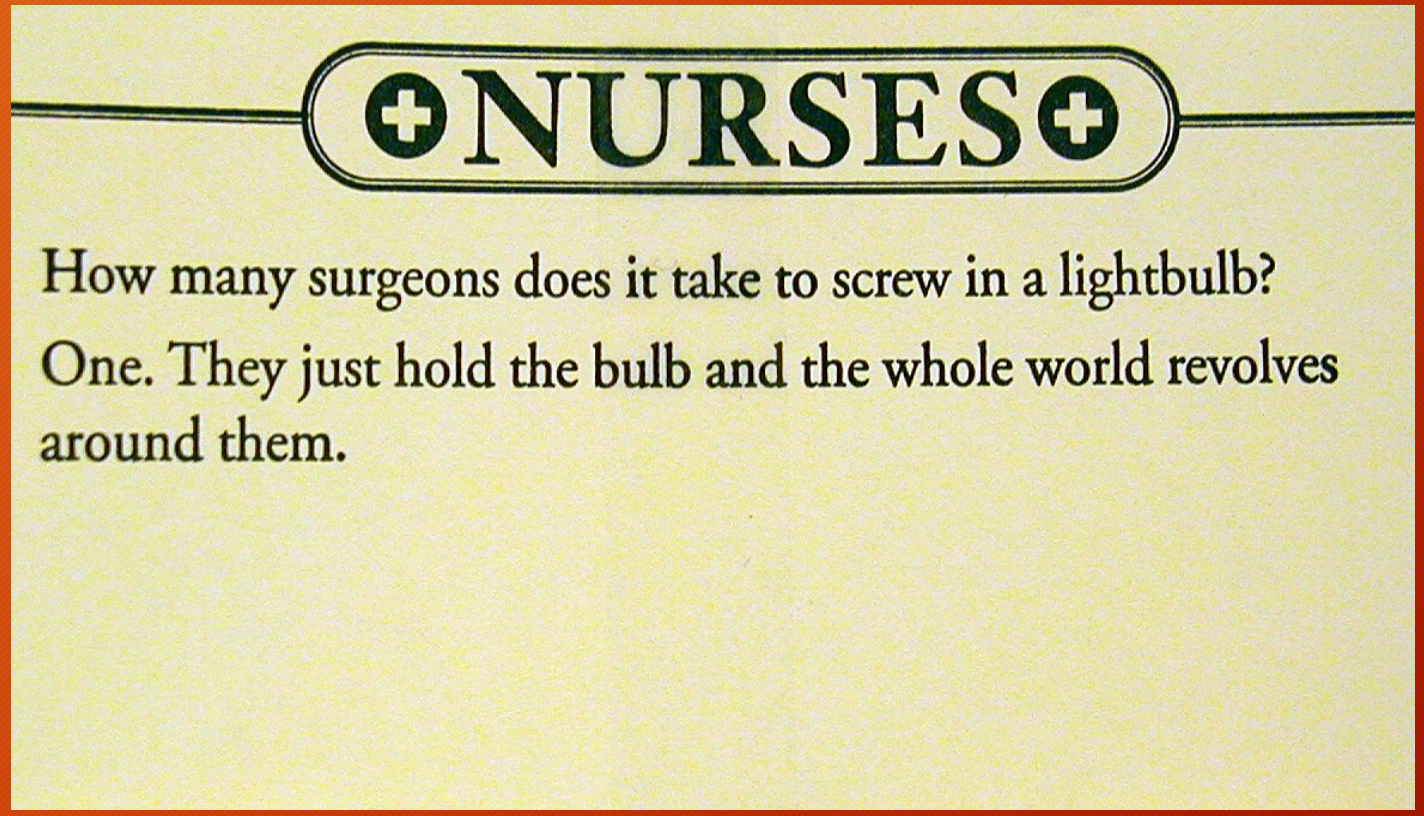
WHAT'S NEW IN SURGERY

Randy Friesen, MD

Dept of Surgery, U of S

WHAT'S [not] NEW IN SURGERY



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

Surgical Audit - “The Walk”

- “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”
- http://www.cags-accg.ca/index.php?page=130

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)
- *http://www.surgeons.org/for-health-professionals/audits-and-surgical-research/*
- 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”

- http://www.nice.org.uk/ (National Institute for Health and Clinical Excellence – NHS)
- 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)
- *World J Surg* 2015;39 (March):623-33

Surgical Audit - “The Walk”

- Most audits findings are communicated quarterly or annually, and are private
- Most audits are based on surrogate findings (eg, re-admission rates after surgery)
- Patient/caregiver/coworker satisfaction ratings still a long way off

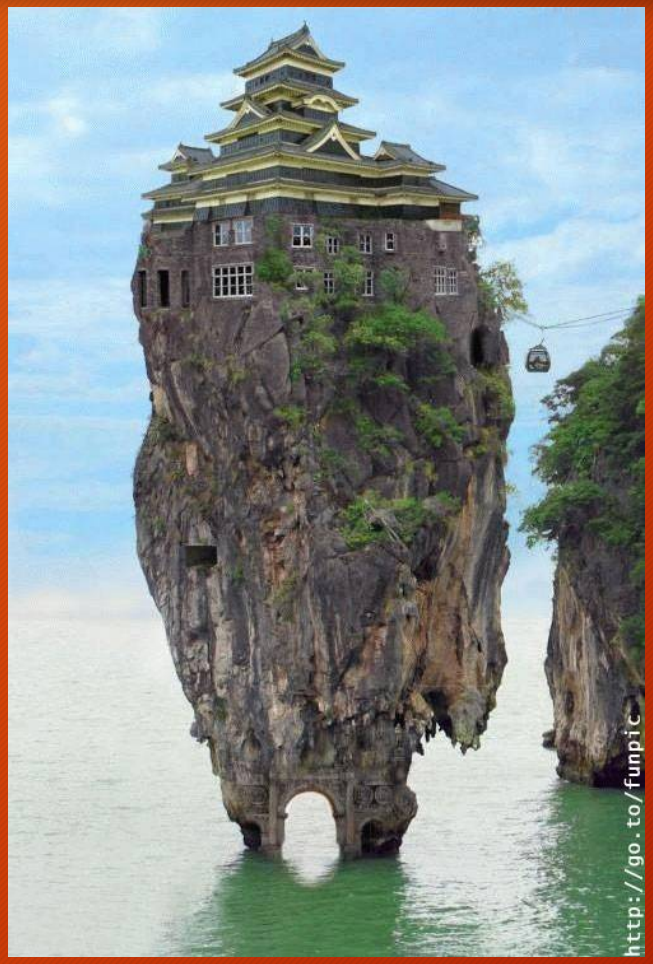
Surgical Audit - “The Walk”

- “Pay for performance” is still a work in progress regardless of payment system, at the individual and institutional level

Surgical Audit - “The Hope”

- 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)

WHAT'S NEW IN SURGERY – Rural Surgery

- 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

WHAT'S NEW IN SURGERY – ESS

- 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 for family physicians in a select set of general surgical and operative 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 program director stating the procedures in which the candidate is found to be competent will be presented to the Regional Health Authority in which the trainee is hired to practice, and to the Health Care Facilities Credentialing Committee of the College of Physicians and Surgeons of Saskatchewan.

Background

According to a 1999 working group of the Society of Rural Physicians of Canada, in partnership with the College of Family 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."[3] This group published recommendations that competency based rural family medicine skills training in GP anesthesia, advanced maternity care including Caesarean sections, and GP surgery 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 Know: the Evidence Base for B.C.'s Small Volume Surgery Programs' and highlighted the following: "**a significant factor in the loss of local services is the lack of a formal accredited program to train rural Family Physicians in surgery in any of Canada's medical schools**. Historical training efforts to deliver surgical training to meet specific community needs have not resulted in the standardized curriculum with a portable skill set that is required to attract suitable candidates to a career path in rural General Practitioner surgery."[2]

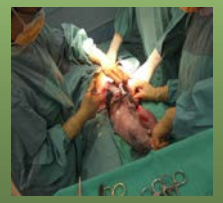
To date, the University of Saskatchewan is unique in its efforts to meet the Canada-w

Victoria Hospital, Prince Albert, SK is the home of the Rural Family Medicine Program. Per year an Average 39 000 ER patients are seen, 5000 OR cases done, and 1400+ babies delivered. The C-section rate is about 14%. With less competition for clinical exposure from specialty residents, it is the ideal site for the ESS.

Project Trajectory to Date

•Feb 2007 - Feb 2008: Pilot Project year 1 resident

•Spring 2008: proposal to U of S College of Medicine requesting formal accreditation of Enhanced



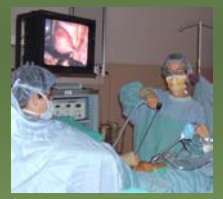


Table 1. CURRICULUM

	Obstetrics	General Surgical
Core Procedures	C-section, Bladder repair, external cephalic version of breech, Vacuum extraction, Repair of 3rd and 4th degree tear, emergency breech delivery, D & C, emergent abdominal hysterectomy/oophorectomy, Episiotomy, Open and Laparoscopic tubal ligation, Manual removal of retained placenta, I & D of Bartholin's abscess, Vulvar/vaginal Biopsy.	Open & Laparoscopic Appendectomy, Diagnostic laparoscopy, Gastroscopy, Colonoscopy, surgical management of intra abdominal sepsis, I & D, Inguinal/umbilical hernia repair, Soft tissue debridement, Circumcision, Vasectomy, Breast biopsy, Lymph node biopsy, Hemorrhoidectomy, Sphincterotomy, Carpal Tunnel release, Trigger finger release, Trauma Management, spinal anaesthesia
Knowledge	preterm C-section, Vaginal Birth After Caesarean, elective repeat C-section, grand multiparity, oligohydramios, polyhydramnios, IUGR, multiple gestation, placenta praevia, placenta accreta, wound infection or haematoma, morbidly obese patients, fetal abnormalities, PPH, gestational Diabetes, pre-eclampsia, maternal coagulopathy, endometritis	Pre-Op assessment, Post-Op care and complications, Abscesses, Abdominal Trauma Abdominal masses, Breast disease, Hand injuries, Hand pain, Ingrown toenails, Leg ulcers, Groin lumps, Neck lumps, Scrotal swelling, GI bleeding, Altered bowel habits, anorectal disease
Academics	Rounds Presentations	Rounds Presentations

EVALUATION: logged procedure portfolio + ¼, ½, ¼ and final year competency based evaluations

MAINTENANCE OF COMPETENCY: SRPC GP Surgery CME: Banff 2008, Whistler 2012

"During my second week on the obstetrics ward we received a labouring multip, 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 reassurring. 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

Safety

•Safe performance of Cesarean section, appendectomy, endoscopy, and anesthesia by GP surgeons has 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."[2]

CONTACT

Dr. Brian Geller: Program Director Enhanced Skills, U of S
bgeller@yahoo.ca
Dr. Vikki Vogt: Program Co-ordinator ESS
vikvogt@yahoo.com

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

Medical Expert	● development of medical expertise in the curriculum procedures and knowledge areas ● awareness of the limits of a GP Surgeon's skill set, and development of case-based criteria for when to refer to a specialist surgeon
Communicator	• constant patient assessment/interaction in ER, OR, wards, clinics and rural itinerant clinics. • constant communication with health care workers in the health regions of Prince Albert Parkland, Kelsey Trail, Mamewetan-Churchill, Keewatin-Yathe & Athabasca, PA's large rural northern referral base, via dictated case reports and telephone consultations. • communicating handover of cases outside the GP Surgeon's scope to specialists
Collaborator	• team approach in clinical care, with anaesthesiologists, family physicians, nurses, dieticians, physio & social work both in Prince Albert and rural referring centres •Team approach in GP Surgery program promotion, with family physicians and surgeons • team approach in Canada-wide GP Surgery professional development, with other GP Surgeons
Manager	• learning the flexibility required to manage patients in settings with varying degrees of resource limitation • managing the complexity of providing both obstetrical service and surgical service • managing stabilization and transfer of patients to larger centres when needed • advising & participating in ongoing quality improvement of the new ESS PGY3
Health Advocate	• development of a unique appreciation of rural and remote care constraints such as patient transport, patient and health care worker isolation, delays in patient care • development of unique appreciation of the effects that lack of surgical/obs capacity have on patients in rural areas. • opportunities to educate urban colleagues and medical students re: rural/remote careers, and GP Surgery or GP Anaesthesia careers • advocating for rural communities by choosing to practice where there is a need, and capacity for GP Surgery; advocating for more capacity for GP Surgery
Scholar	• rounds presentations given to faculty, community physicians and rural family medicine residents • attendance at GP Surgery CME Conferences; other CME applicable • weekly reading modules with preceptors • participation in Advanced Trauma Life Support & ALARM courses
Professional	• development of sensitivity to a wide range of cultural, educational, and political factors affecting access to care in rural areas • future Maintenance of Competency via practice audits, GP Surgery CME and SOGC affiliation. • respecting the limitations of a narrow surgical scope

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?
● expansion of ESS to include an 'international' service learning module in

References

1. Humber N., S. Iglesias. "Position Paper on Training for Family Physicians in General Surgery" document of the Working Group of the Society of Rural Physicians of Canada in co-operation with the College of Family Physicians of Canada. Jan.5, 1999
2. Iglesias, S. What We Know: the Evidence Base for BC's Rural Small Volume Surgery Programs. paper prepared for the Invitational Meeting on Rural Surgical Services, Vancouver 2007
3. Joint Position Paper on Training for Rural Family Practitioners in Advanced Maternity Care Skills Including Cesarean Section. Society of Rural Physicians of Canada, Society of Obstetricians and Gynecologists of Canada, and College of Family Physicians of Canada. Journal SOGC 1999;80:985-94
4. Smith-Windsor, Tom. A Proposal for Training Family Physicians in General Surgical Skills at Prince Albert, Saskatchewan. January 2006

Thank You

University of Saskatchewan College of Medicine
University of Saskatchewan Department of Family Medicine
Saskatchewan Medical Association
The surgeons and obstetricians of Prince Albert, SK

WHAT'S NEW IN SURGERY – ESS

- 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)

WHAT'S NEW IN SURGERY – ESS

- 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

WHAT'S NEW IN SURGERY – ESS

- 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

WHAT'S NEW IN SURGERY – ESS

- Come to the SUMMIT tomorrow to find out and to determine the future of rural surgery in Canada

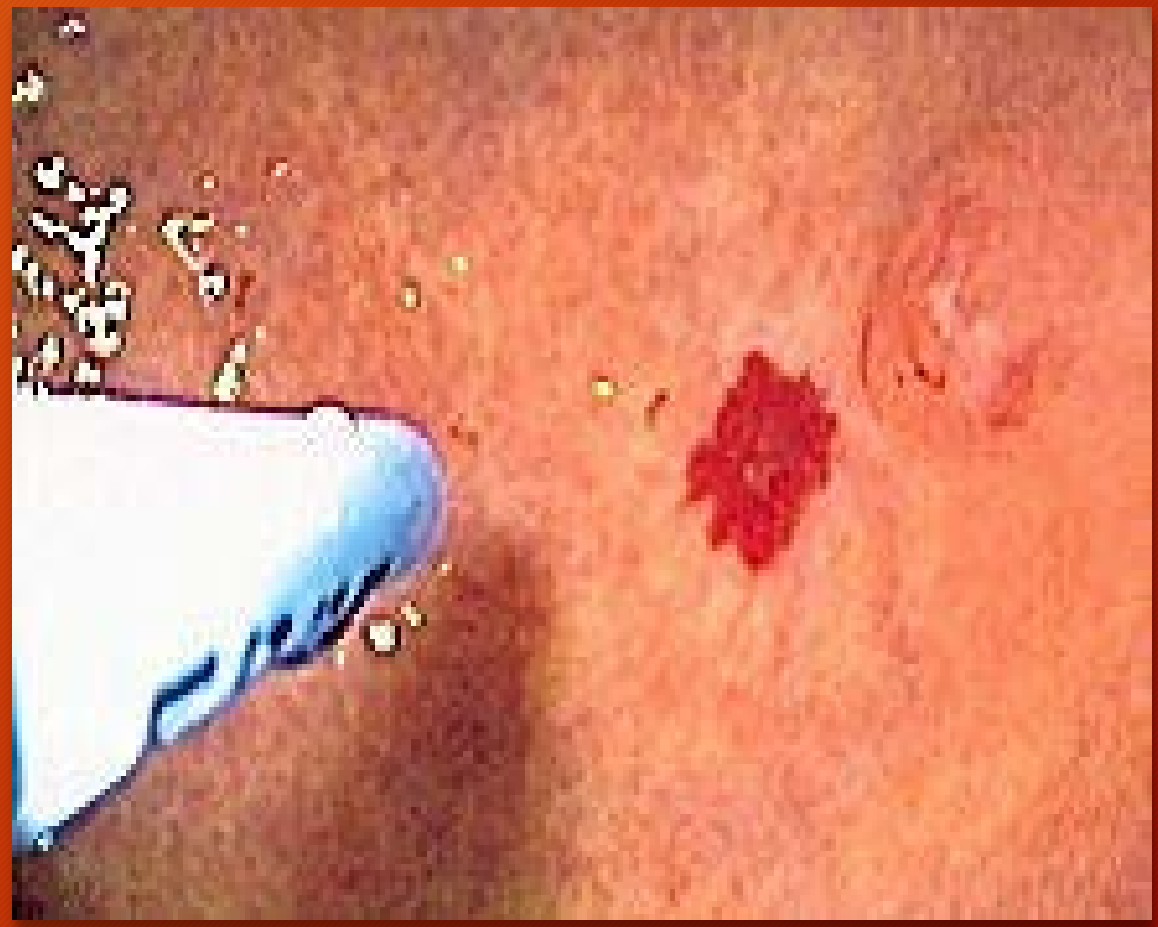

Reynolds
PEPSI
PEPSI
"You're fired, Jack. The lab results just came back, and you tested positive for Coke."

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

WHAT'S NEW IN SURGERY - APC

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
- **Gast Endosc May 2015** Volume 81, Issue 5, Supplement, Pages AB576–AB577

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

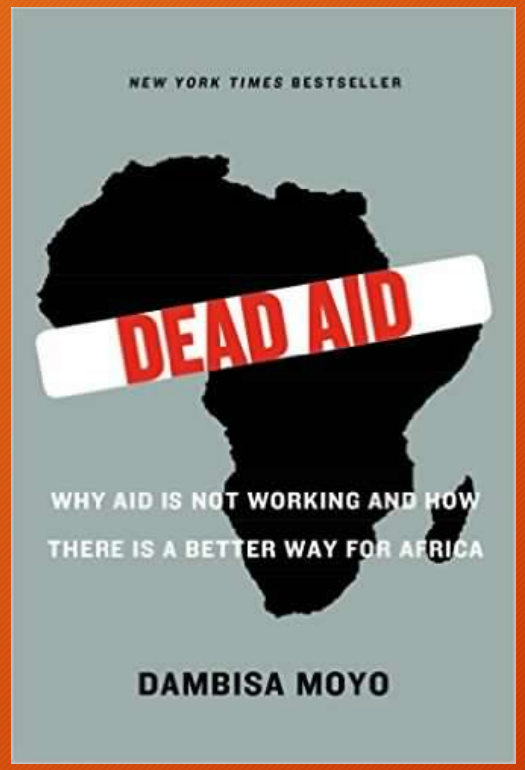
WHAT'S NEW IN SURGERY – GI Endoscopy

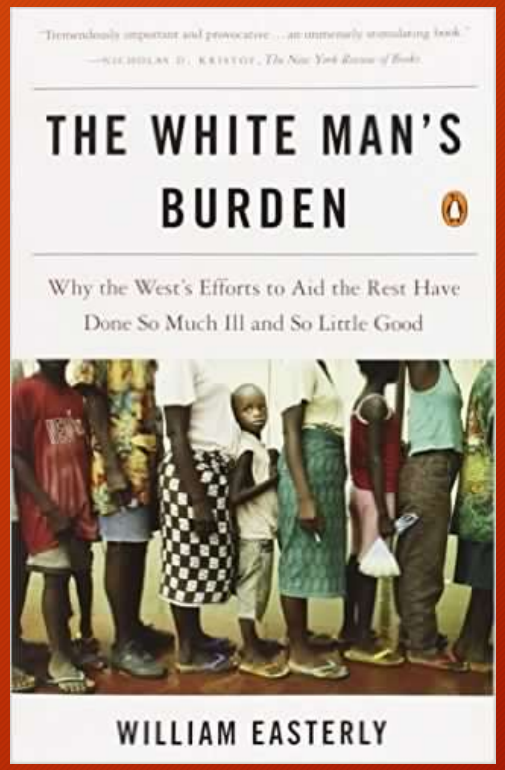
- **Politics**: who owns this technique?
- **Training**: FES (Fundamentals of Endoscopic Surgery - SAGES) ***or*** FEC (Flexible Endoscopy Curriculum – American Board of Surgery)
- **Audit**: tools in development, consensus?
- **Economics**: screening, availability in rural areas

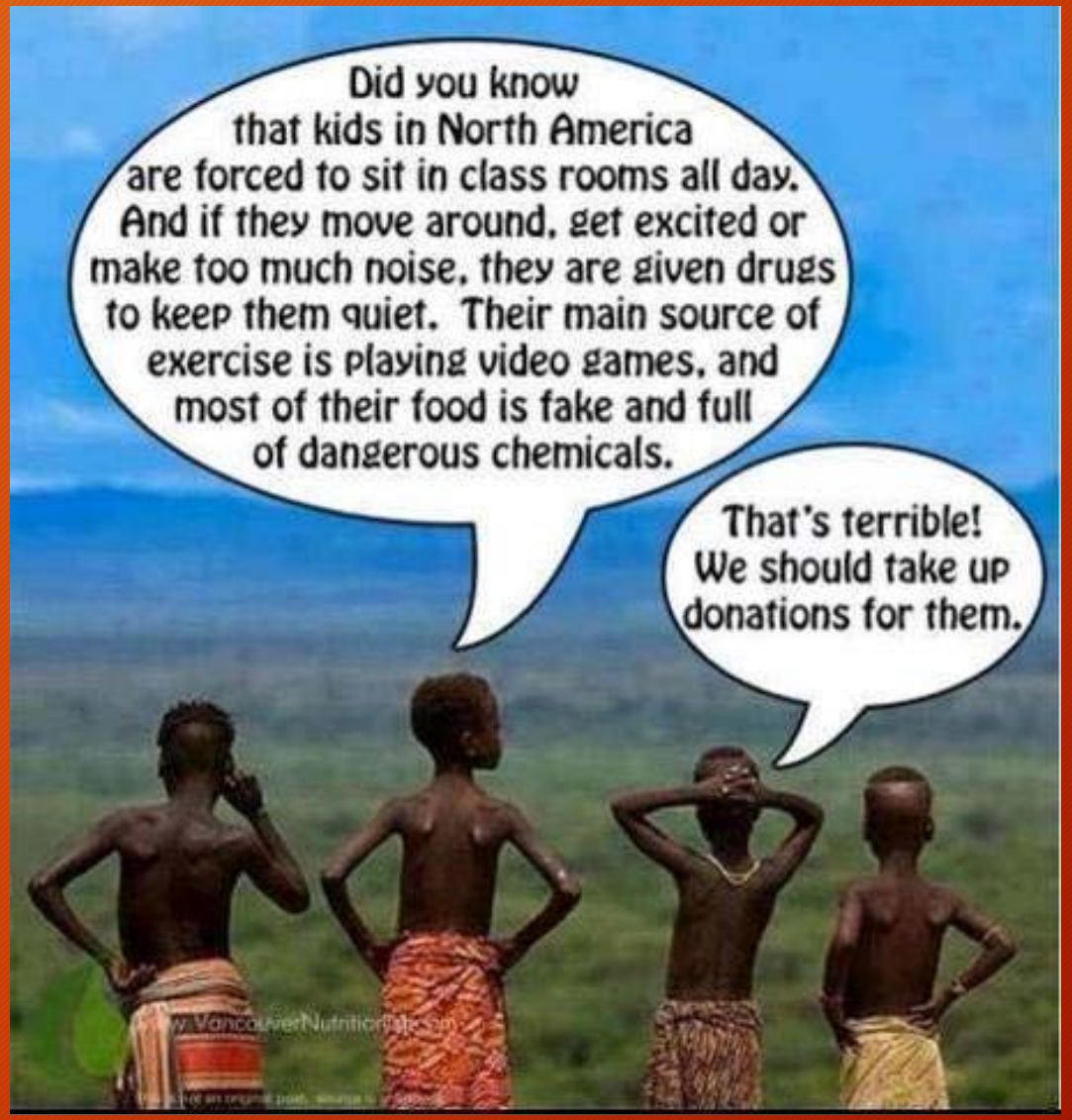
WHAT'S NEW IN SURGERY – International Surgery

- 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

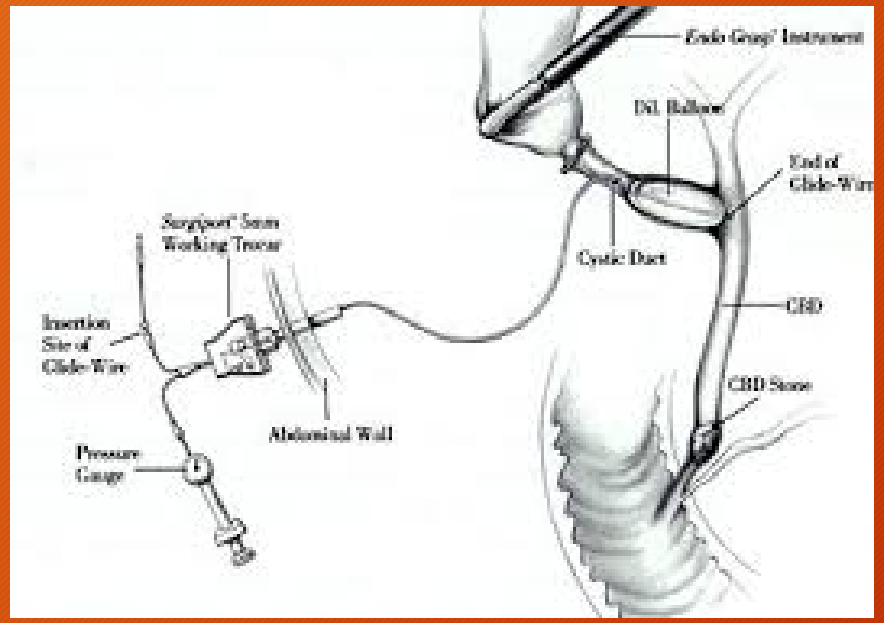
- **Homeostenosis concept: frailty on a physiological level**

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

WHAT'S NEW IN SURGERY - Surgical Training

- 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.
- Hum Reprod (1998) 13 (4): 867-872.

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

WHAT'S NEW IN SURGERY - Surgical Training

- 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

WHAT'S NEW IN SURGERY - Surgical Delivery

- **Acute care surgery**: pros and cons
- Pros: lifestyle improvement, OR efficiency
- Cons: handovers, potential skills loss