

## New database aims to improve emergency general surgery care and outcomes

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Researchers at Wake Forest Baptist Medical Center in Winston-Salem, NC, have successfully created and implemented an emergency general surgery registry (EGSR) that will advance the science of acute surgical care by allowing surgeons to track and improve surgical patient outcomes, create performance metrics, conduct valid research and ensure quality care for all emergency general surgery (EGS) patients. The registry, featured in a study published in the February 2012 issue of the *Journal of the American College of Surgeons*, was modeled after the American College of Surgeons (ACS) National Trauma Data Bank (NTDB) and components of the ACS National Surgical Quality Improvement Program (ACS NSQIP). It is the first registry of its kind to establish ICD-9 codes (International Classification of Diseases) that help to define and evaluate EGS patients.

Today, trauma surgery is well documented and researched, and registries around the world like the NTDB further study [traumatic injury](#) and treatments.<sup>i ii iii</sup> However, there are few published studies outlining the determinants of EGS outcomes and overall, there is poor understanding about the systems through which EGS care is delivered. EGS cases include a breadth of pathology including appendectomy, hernia repair, intestinal repair, abscess drainage, and cholecystectomy (removal of the [gallbladder](#)) – and these emergency procedures commonly represent extremely challenging cases. Many institutions currently evaluate EGS cases using discharge records that contain administrative data only and are not designed to track disease-specific variables.

"We consider the EGSR to be fundamental to our practice and hope it will become a national model to track and improve acute surgical care in the U.S.," said lead author of the study Preston R. Miller, MD, FACS, associate professor, Department of [General Surgery](#), Wake Forest School of Medicine, Winston-Salem, NC. "This registry is a work-in-progress and as we move forward, it is critical that this be a coordinated, multi-institutional effort evaluating a myriad of acute surgical services with the goal to advance care and outcomes for EGS patients."

These patients fall into a broad profile spectrum – urgent or emergent, scheduled or elective, primary or secondary diagnoses, not always general surgery, and so on. Therefore, defining them is very challenging.

"The evolution of acute care surgery – and emergency general surgery as a core area of practice under its umbrella – requires a comprehensive database like this to analyze care and outcomes for this complex patient population," added Robert D. Becher, MD, co-author of the study at Wake Forest School of Medicine. "We hope the EGSR will not only help advance the science of this field, but will also aid in establishing national benchmarks and standards of care, as trauma has done so well over the last 40 years."

Researchers compiled EGS admissions data from January 1, 2009, through September 30, 2009. They modeled the NTDB criteria in 11 categories, including primary diagnosis, laboratory information, medical history, emergency department records, demographic variables, financial and outcomes information. The data review included 959 admissions, and from these cases 306 diagnostic codes in 16 disease categories were identified. The most common diagnoses were intestinal obstruction (143 patients), hernia repair (132 patients), cholecystitis (gall bladder disease, 129 patients), peritonitis (inflammation of the abdominal wall, 120 patients), diverticulitis (inflammation in the digestive system, 92 patients), peptic ulcer disease (73 patients), and appendicitis (52

patients).

**More information:** i American College of Surgeons: Trauma Programs: National Trauma Data Bank (NTDB).  
[www.facs.org/trauma/ntdb/index.html](http://www.facs.org/trauma/ntdb/index.html) Accessed February 17, 2011.

ii Anon. National Trauma Registry Consortium - (Australia & New Zealand) at The University of Queensland. [www.uq.edu.au/ntrc/](http://www.uq.edu.au/ntrc/) . Accessed February 17, 2011.

iii The Canadian National Trauma Registry (NTR).  
[secure.cihi.ca/cihiweb/dispPag ... \\_page=services\\_ntr\\_e](http://secure.cihi.ca/cihiweb/dispPag..._page=services_ntr_e) . Accessed February 17, 2011.

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