American College of Surgeons Committee on Trauma

Program Update

Jane Ball, RN, DrPH Nels D. Sanddal, PhD, REMT Robert J. Winchell, MD, FACS

September – 2013





American College of Surgeons

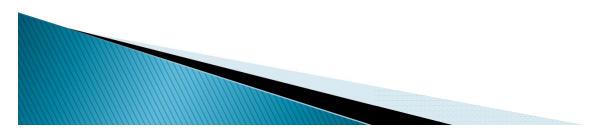
ACSCOT and NASEMSO

- Partners with a shared mission
- Formalized relationship in 2011
 - Memorandum of Understanding
 - Joint Operating Committee
 - Shared Goals
 - Development, dissemination and implementation of Optimal Resource Document
 - System development and measurement
 - Data sharing

- Complementary strengths and areas of focus
- Relationships are strengthened by familiarity

ACSCOT and NASEMSO

- Brief historical background
 - ACS
 - COT
- Organization Structure of the COT
- Primary initiatives affecting state systems
 - Trauma Center Verification
 - Trauma Systems Consultation
 - Quality and Data programs
 - Educational programs
 - Advocacy

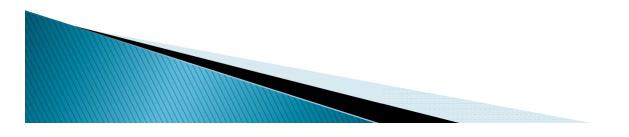


American College of Surgeons

- Established in 1913 to improve the care of surgical patients by setting standards for education and clinical care
 - Over 75,000 members, including 4,000 international members
- Major areas of focus
 - Education and training
 - Quality and data systems
 - Advocacy
 - Commission on Cancer
 - Committee on Trauma

Committee on Trauma

- Established in 1922 as the Committee on Fractures
- Components
 - Committee on Trauma
 - State and regional Committees on Trauma
 - 65 states, regions and provinces
 - International regions
 - Military regions
- Mission: Education, Standards of Care, Assessment of Outcomes



Education

Reilly - Brasel

- ATLS Brasel
- RTTDC Sidwell
- DMEP Doucet
- ASSET Bowyer
- ATOM Henry
- Optimal Center Young
- Congress Courses

Medical Director - Fildes Chair - Rotondo Vice Chair - Coimbra Membership - Malangoni

Advocacy

Weireter

Quality

Winchell - Cribari

- Systems Winchell
- VRC Cribari
- EMS Bulger
- Rural Burton
- Disaster Doucet
- Prevention Kuhls
- TQIP Nathens

Information Engine

Nance - Enderson

- NTDB Nance
- PIPS Enderson
- Info Tech Ashley

Education

- ATLS
- Monique Evelyn
- Bill Jenkins
- Gerardo Cardenas
- Jena Watson
- Jasmine Alkhatib
- Freddie Scruggs
- Pascale Leblanc
- Sharon Borum
- Casimir Lorenc
- Meg Capshew

National COT **Regional Committees**

Advocacy

Kristin McDonald Jon Sutton

Quality

- VRC/TSPEC
- Nels Sanddal
- Molly Lozada
- Rachel Tanchez
- Holly Michaels
- Anita Johnson

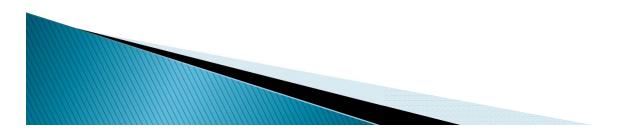
Information Engine

- •Chrystal Price •Tammy Morgan • Chris Hoeft •Amy Svestka Haris Subacius
- Alice Rollins Sue Bergstrom

COT STAFF

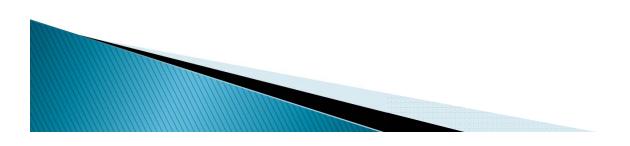
Trauma Center Verification

- Largest overlap with daily system function in most states
- Verifies that centers meet criteria established in current edition of the "Resources for the Optimal Care of the Trauma Patient" (ORD)
 - Criteria based on structure and process
 - 3 year verification cycle
 - The COT does not designate centers
 - There are no provisions for interim monitoring
 - Ongoing growth in the number of verified centers



Trauma Center Verification

- Currently Level I, II, and III, but level IV criteria return to newest ORD
- ORD nearing completion of comprehensive re-evaluation and update
- Promulgation of trauma center standards is a major focus for COT/NASEMSO cooperation



Verified Trauma Centers 2013

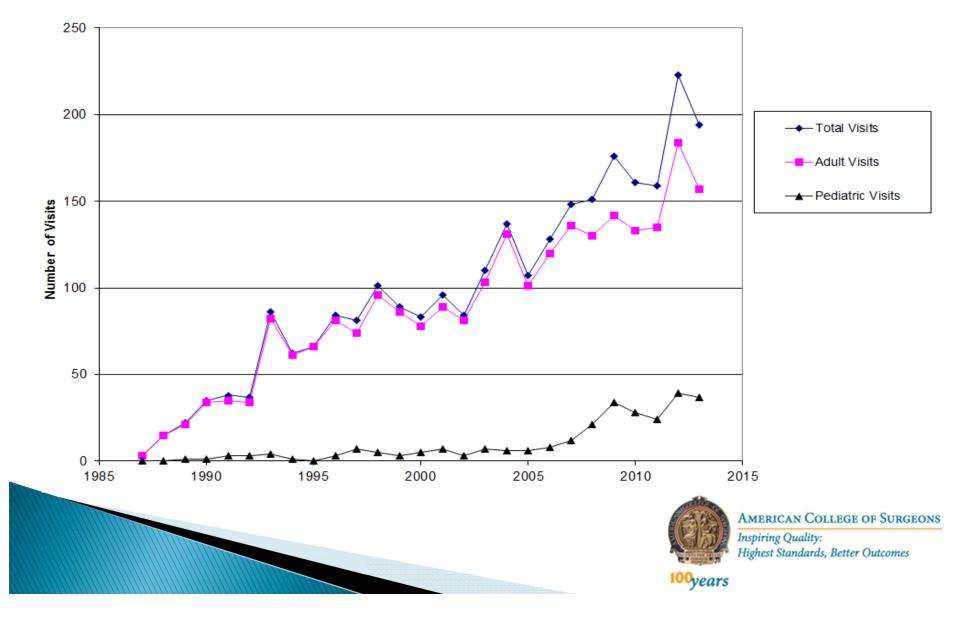
- Level I
- Level II
- Level III
- Level I Pediatric
- Level II Pediatric
- Level I/II Adult w/Level I/II Pediatric
 - TOTAL

- 76 (13 pending)
- 143 (12 pending)
 - 57 (5 pending)
 - 23 (7 pending)
 - 6 (1 pending)
 - <u>90* (6 pending)</u>
 - 395 (44 pending)



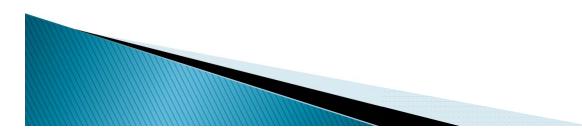
100years

Verification Site Visits Growth (Includes consultations and onsite focused visits)



Total "New" Verified Trauma Centers

| Year | "New" Consultation/Verified Centers |
|------|-------------------------------------|
| 2005 | 13/7 |
| 2006 | 6/0 |
| 2007 | 23/6 |
| 2008 | 36/15 |
| 2009 | 30/13 |
| 2010 | 29/12 |
| 2011 | 33/17 |
| 2012 | 38/9 |
| 2013 | 39/21* |



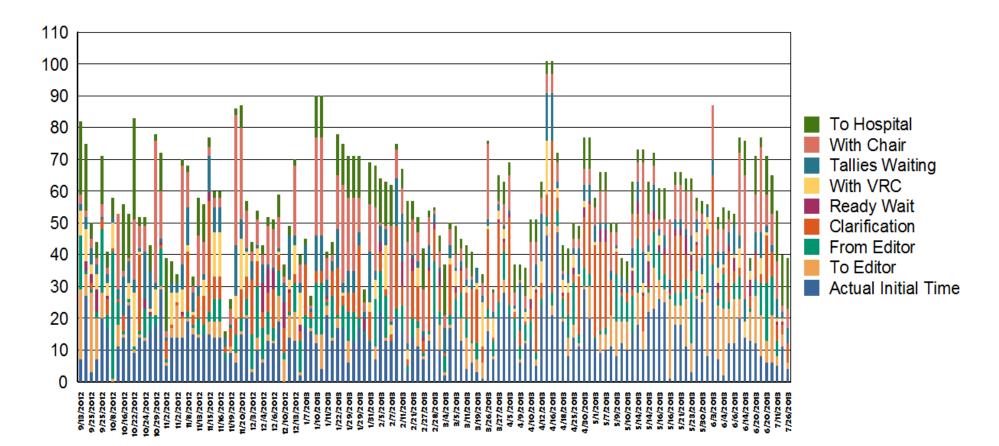


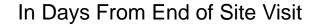
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Inspiring Quality: Highest Standards, Better Outcomes

100years

Other PI Initiatives







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Resources for Optimal Care of the Injured Patient - Revision Update

- All chapters have undergone:
 - Input solicitation
 - Initial writing/revision

- 3 editorial reviews/revisions
- Evidence-based linkage to criteria is underway
- Preparation to provide the ACS/NASEMSO Trauma JOC with advanced copies
 - Allow for development of materials to assist states with transition/implementation
- Anticipated final delivery date: Early 2014

Clarification of State Relationship

SITE REVIEWER'S MEETING*

 Closed meeting. This session involves only the review team unless representation from the agency that designates trauma centers (based on required ACS verification) is present at the review. If present, the session should also include at least one representative from that agency, typically the agency's trauma program manager or trauma medical director.

From: Conducting Verification and Consultative Reviews: A Staff and Consultant's Guide

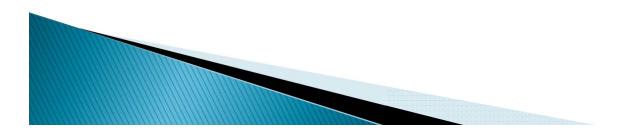




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Trauma Center Verification

- Questions?
- Points for discussion?



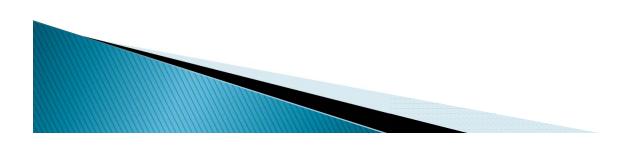
Trauma Systems

- Mission is to promote development and optimization of regional trauma systems
- Areas of focus
 - Consultation visits, both global and focused
 - Development of tools for system measurement and needs assessment
 - Inventory of system resources
 - Development of international relationships
 - Specific systems oriented research



Climate Change

- Primary questions arising in recent consultations focus on the "how"
 - How should a needs assessment be done?
 - How many trauma centers are needed?
 - How should performance be measured?
 - How does a lead agency arbitrate contentious issues?
- A pure, objective data-driven answer is a mythical beast
- One solution still will not fit all situations



The Challenge... and the Opportunity

- Develop a set of concrete recommendations and examples to guide regional systems in needs assessment and resource allocation
 - Inventory and assessment of current practices
 - Identification of potential metrics for structure, process and outcome
 - Establish a range of potential benchmarks
 - Acknowledge the lack of a single best practice
- Empower regional systems to choose their metrics and their targets
 - Consensus-based process with stakeholder buy-in

The Challenge... and the Opportunity

- Collect data in regular fashion
 - Work with existing data sources
 - Utilize regional strengths to collect specific data
- Adjust regional metrics and benchmarks based on progress
- Adjust overall approach based on experience within regions.



| | American College of Surgeons – Trauma Center Needs Assessment Tool | | |
|-------------------|--|---|--|
| | Desired State | xx % of all injured patients meeting step one or two field triage criteria will | |
| Category - Access | | receive care at a LI or LII trauma center within yy minutes of injury. | |
| | Parameters | xx - No data available for percentage of injured patients, suggested range 80%-100% yy - No data available for correct time to arrival, suggest 60 min | |
| | Current State | Determine: Injury time Field triage step Arrival time at facility Destination facility, if other than level I or level II center, then need time to transfer Arrival time at 2nd facility | |
| | Data Sources | EMS registry Trauma registry at receiving trauma centers Trauma data from intermediate facilities: Trauma specific data HDD or EDD data | |
| | Gaps | Delay in EMS dispatch Delay in EMS arrival Long transport time No appropriate center | |
| | Strategies | Include both ground and air medical transport time/ distance in calculations (add no-fly days into the calculations) | |
| | Trade-Offs | Over designation likely to improve access but increases cost and volume at individual trauma centers Under-designation will maintain higher volume at individual trauma centers but potentially decreases access and places greater burdens of transport resources, both for field and inter-facility transports. | |

| | American College of Surgeons – Trauma Center Needs Assessment Tool | | |
|-------------------|--|--|--|
| | Desired State | xx% of injured patients with ISS > 15 treated without transfer at facilities other than designated trauma centers | |
| Access | Parameters | xx - no data, suggest < 5% | |
| | Current State | Determine: % of patients with ISS > 15 treated in designated trauma centers compared with total number of injured patients with ISS >15 in the state | |
| | Data Sources | State trauma registry Facility trauma registries Hospital discharge data Vital records (death certificates) | |
| 1 | Gaps | Limited enforcement of system guidelines for interfacility transfer | |
| Category - Access | Strategies | Identify hospitals not appropriately transferring seriously injured patients on a consistent basis (e.g., keep paying patients or neurosurgeon available daytime hours only). Identify as a potential location where trauma center or trauma participating hospital is needed. Monitor and enforce transfer guidelines and policies. | |
| Co | Trade-Offs | In rural areas access to specialty care, e.g. neurosurgeon, may be occasionally life-saving. However, the resources supporting that sporadic care such as a qualified ICU may be lacking and the lack of their inclusion in the trauma center through a designation/verification process reduces oversight and performance improvement monitoring. Selective triage by ability to pay places a greater burden on higher level centers. Failure to recognize that all acute care facilities treat some level of injury negates the opportunity to collect data from those facilities and to more fully integrate them into an inclusive trauma system designed to meet the needs of the entire spectrum of injured patients. | |

| | American College of Surgeons – Trauma Center Needs Assessment Tool | | |
|-----------------------------|--|--|--|
| | Desired State | Each level I center will see a sufficient volume of injured patients to | |
| | | support continued competence of trauma staff and the training mission of the center | |
| sion | Parameters | Limit by admissions: COT 1200 Limit by severe injuries: COT 250 with ISS > 15 Limit by geographical proximity: One LI per region or catchment area | |
| g Miss | Current State | Determine: Required volume for competency mission Required volume for training mission | |
| Category – Training Mission | Data Sources | EMS registry Trauma registry at receiving trauma centers Trauma data from intermediate facilities: Trauma registry specific data Hospital discharge or ED discharge data | |
| ory – | Gaps | Over-triage to LI center Underutilization and commensurate experience at LII-III trauma centers | |
| Catego | Strategies | If the training need cannot be met by standard patient flow, the field triage criteria may need to be adjusted to ensure the agreed upon volume. If patient transport is determined by geographic catchment area, boundary modifications may be necessary. The training mission should be factored into the model for trauma center number, location, and level. | |
| | Trade-Offs | May result in under-designation of supporting facilities that would be necessary for surge or large scale events. This could, potentially, reduce redundancy in the event of a LI facility catastrophe such as a flood, tornado, earthquake, fire or act of terrorism. | |

| | American College of Surgeons – Trauma Center Needs Assessment Tool | | |
|--------------------------------|--|---|--|
| h | Desired State | xx% of population covered by E911 or Next Generation 911, yy% of geographical coverage by E911 or Next Generation 911 | |
| ispato | Parameters | xx - no data available, suggested 95-100% of population yy - no data available, suggested >90% of geography | |
| Category – Discovery/ Dispatch | Current State | Determine: • % of population covered • % of geography covered | |
| SCOV | Data Sources | State 911 Office Regional/Local 911 Offices | |
| - Dis | Gaps | Delay in ability to notify dispatch by cell phone Inability to locate caller results in delayed response | |
| gory - | Strategies | Continued national and statewide efforts to upgrade 911 capacity is ongoing. Trauma stakeholders should be knowledgeable of such efforts in their state or region and should support legislative or grant efforts to secure sufficient funding for such improvements. | |
| Cate | Trade-Offs | While delays in discover do occasionally occur, delays in notification are far more common and may affect need for additional trauma centers in order to meet time to definitive care guidelines. Failure to identify caller location (E911 and Next Gen 911) may delay response times and may also suggest the need for additional trauma centers. | |

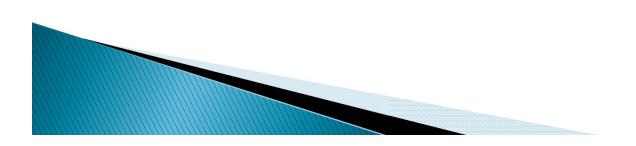
| | American College of Surgeons – Trauma Center Needs Assessment Tool | | |
|-------------------------|--|---|--|
| Category – EMS Response | Desired State | xx% of population covered by advanced life support personnel within zz minutes; yy% of population covered by basic life support ambulance within aa minutes | |
| | Parameters | xx - no data available, zz - in urban systems fractal response time of < 9 minutes >95% yy - no data available aa - in rural systems fractal response time of <20 minutes >90% | |
| | Current State | Determine: % of urban population covered by ALS within established response times parameters % of rural population covered by ALS within established response times parameters % of rural population covered by BLS within established response time parameters | |
| | Data Sources | State EMS Office: • State NEMSIS databases • Computer aided dispatch (CAD) databases | |
| | Gaps | Limited availability of ALS resources in rural areas Can be of high value due to extended transport or transfer times. Local agencies may be reluctant to transport patients to distant trauma centers Takes limited resources out of primary response area If volunteer staffed takes people away from primary vocations | |
| | Strategies | Computer aided dispatch may help identify the correct response type/mode. Pre-arrival instructions are essential in areas with extended response times but rural dispatch centers often do not have the resources to provide certification for their dispatchers. Trained emergency medical responders (EMR) such as law enforcement, fire department or freestanding quick response units may be essential to provide immediate medical care prior to the ambulance arrival in rural and remote areas. | |
| | Trade-Offs | Properly positioned EMS agencies reduce response time. It may not be practical to expect high level prehospital resources in every community. Regionalization of EMS systems may help control costs and helps keep local resources within standard response areas. ALS rendezvous and hand-offs may improve system efficiency. | |

Inventory and Assessment

- Trauma Center Inventory Project
 - Provides number, level, and location of centers
 - Expanding data set to include capacity measures
 - Possible linkage to TQIP, NTDB or other potential sources of outcome data
- Identification of sources for EMS inventory
- Catalog of needs assessment methodologies used in different regions
- Catalog of regulatory approaches
- Catalog of potential system metrics
 - System Benchmarking project

International Efforts

- Two international visits done
 - Combination of VRC and Systems process
 - Rigshospitalet, Copenhagen, Denmark July 2012
 - Hamad General Hospital, Doha, Qatar March 2013
- Great untapped need
- Open consultative approach is essential
 - Broad concepts can be generalized
 - Specific standards poorly generalized
 - Individual solutions inherently local



International Efforts

- Working in coordination with new I2C2
- Plan to gather information on current status
- Work to establish criteria for international hospital verification/accreditation/?? Term
 - Adhere to broad principles

- Establish applicable standards
- Separate from US-based VRC
- Work to aid system development
 - Collaboration with WHO and other organizations
 - Creation of system development tools
 - Establishment of an international trauma data set

Trauma JOC

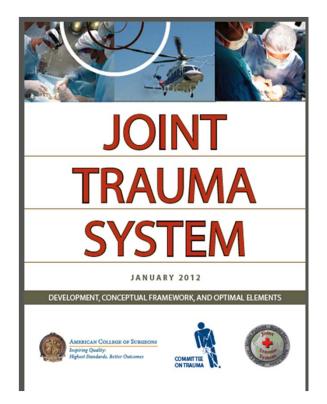
- > Empanelment of joint operations NASEMSO/COT Committee
- Early areas of collaboration that impact systems committee:
 - Systems Benchmarking
 - Model system/regionalization
 - Air/ground transportation
 - Definitive care standards
 - Collaboration w/state COT/state EMS



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US Military Document

 Approved by Board of Regents





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Follow-up Project

- Measuring the impact of the trauma system consultation process on system development in states/regions we have visited
 - 16 indicators from HRSA's 2006 Model Trauma System Planning and Evaluation, Benchmarks, Indicators, and Scoring tool used to measure progress
 - Scoring of current status of priority recommendations from report
- > Data Collection Complete
- > Analysis of data and reporting of findings to follow



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EMSC Targeted Issues Grant

- Three abstracts have been developed and submitted 0
- Multiple articles in process 0
- No cost extension until November 30, 2013 0

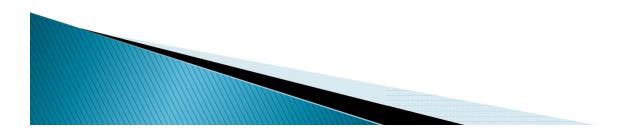




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Trauma Systems Program

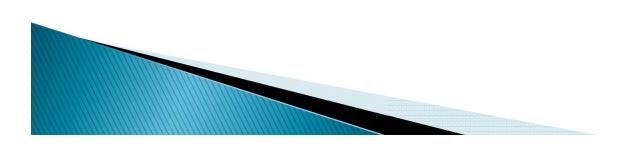
- Questions?
- Points for discussion?



Data and Quality Programs

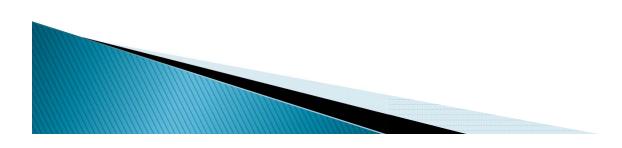
National Trauma Data Bank

- Continued improvements in data quality
- Changing submission time frame
- Linkage with NEMSIS
- Trauma center inventory project
- Trauma Quality Improvement Project (TQIP)
 - Improved data quality and benchmarking
 - Refining methodology
 - Working on linkage to verification process



NTDB Update

- The Annual Report will presented at the AAST Annual Meeting featuring 773,299 records from 744 hospitals
- NTDB is moving to a more concurrent data collection model, with enhanced online reports
- We are developing an online course on NTDB/NTDS

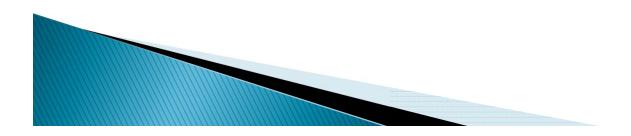




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Trauma Center Inventory

- One of the primary cooperative projects between NASESMSO and COT
- 2000 + records so far
- Data collected through current, updated infrastructure
- Optimization of data capture essential
- Ongoing development will
 - Review and refine data dictionary
 - Consider data uses and future goals

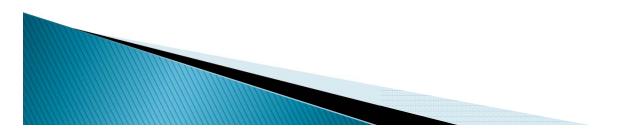




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TQIP Status Report

- 180 current participants
- Rolling enrollment join any time during the year
- Developing TQIP participation for states/systems
 - Five states at various stages of participation
- Pediatric TQIP pilot with 38 centers
- Beginning to identify high performers
- External data validation





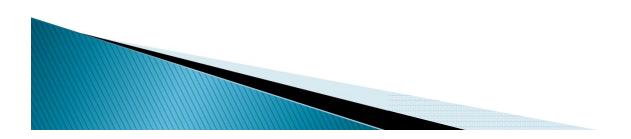




TQIP deliverables

2013 :

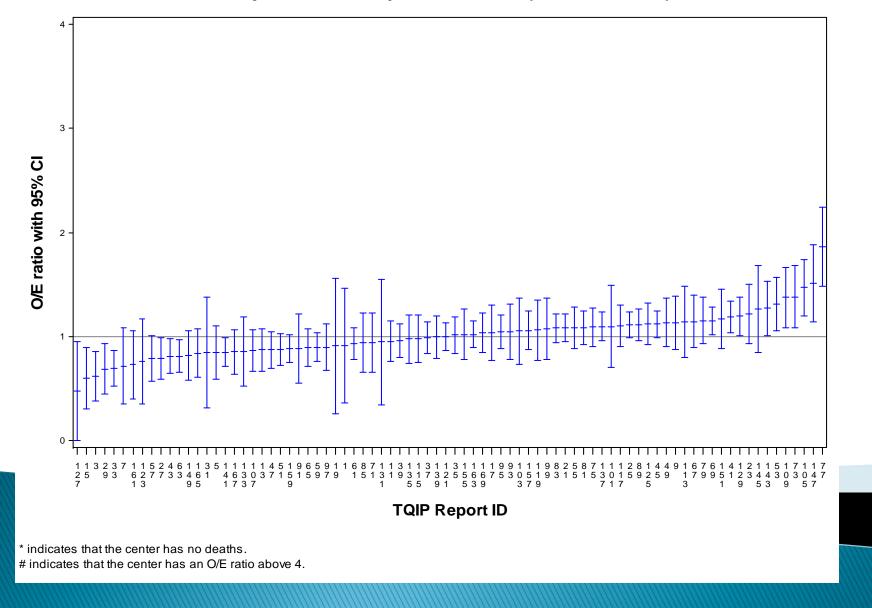
- Risk adjusted benchmark reports
- Web conferences
- Quarterly data quality check
- Online course
- Monthly educational experiences
- Online data analysis tool
- Web conferences
- Annual meeting











Risk Adjusted Mortality: All Patients (Odd # centers)

Merging TQIP and Verification

- Provide for outcome-based trauma center verification/designation
- Strategic planning underway
 - Business model development
 - Functional impact analysis
 - High performing centers
 - Low performing centers
- Phased in process

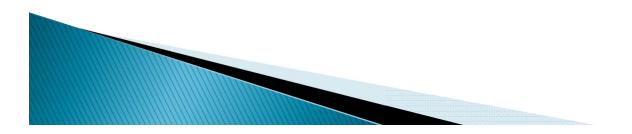




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Data and Quality Initiative

- Questions?
- Points for discussion?



Educational Programs

- A major focus of COT activity since its inception
- Several new courses developed, aimed both at providers and facilities
- Development of electronic platforms and new modes of course delivery



Current Courses

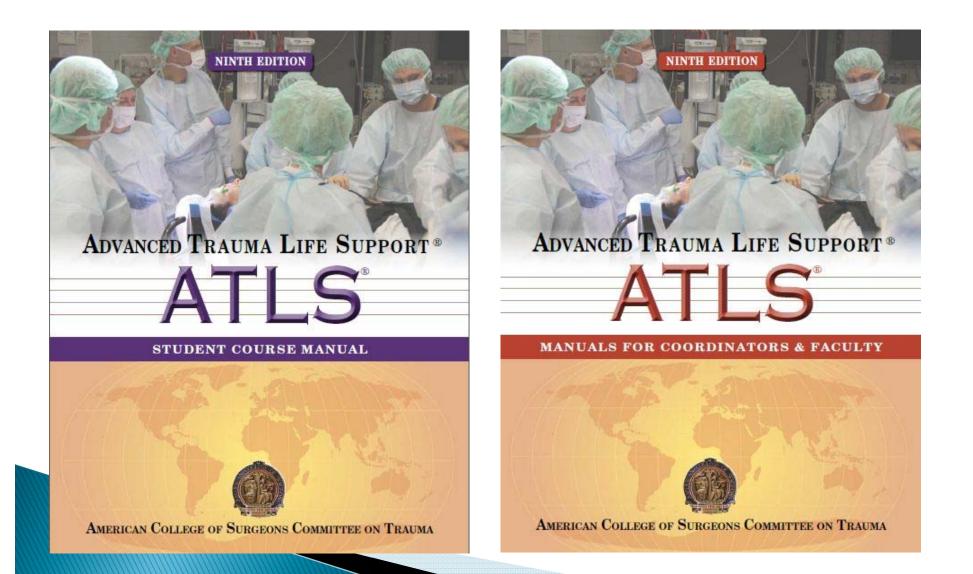
- Advanced Trauma Life Support Course ATLS
- Prehospital Life Support Course PHTLS *
- Rural Trauma Team Development Course RTTDC
- Trauma Outcomes and Performance Improvement TOPIC*
- Disaster Management and Emergency Preparedness DMEP
- Advanced Surgical Skills for Exposure in Trauma ASSET
- Advanced Trauma Operative Management ATOM
- Trauma Evaluation and Management TEAM
- Optimal Trauma Center Organization and Management Course

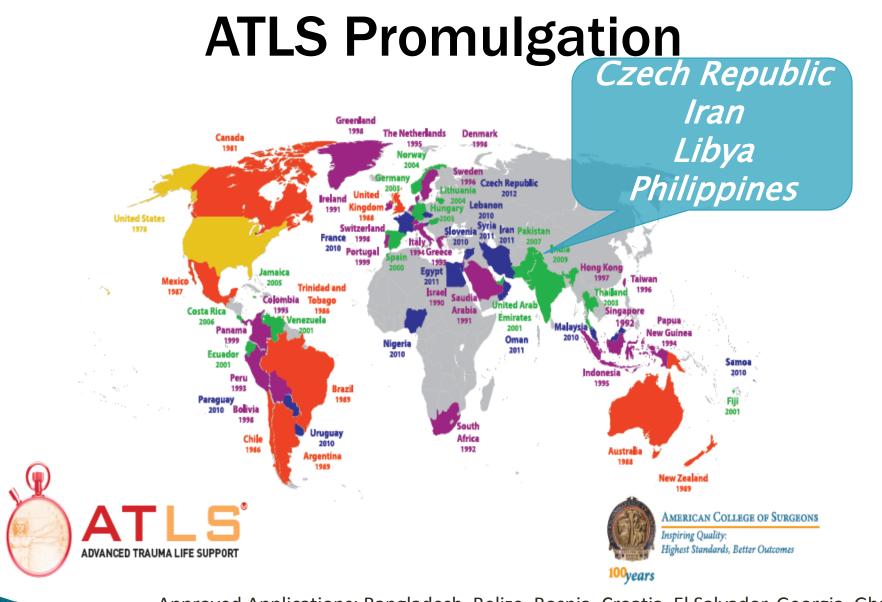
*cosponsored with other organizations



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ATLS – in the 9th Edition





Approved Applications: Bangladesh, Belize, Bosnia, Croatia, El Salvador, Georgia, Ghana, Honduras, Iraq, Mongolia, Philippines, and Poland

ATLS APP Completed

Welcome!

Correct Method for Assessment Management. Incorrect Method for Assessment Management.

Advanced Trauma Life curront for





Welcome to the Advance Trauma Life Support® for Doctors Guide

This video demonstrates the correct method for Assessment Management.

This video demonstrates the incorrect method for Assessment Management.

Airway Management Tips

Bag Mask Usage



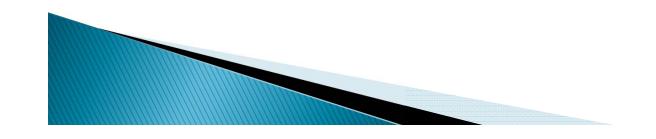


Tips for airway management.

Demonstration of the usage of a bag mask device.



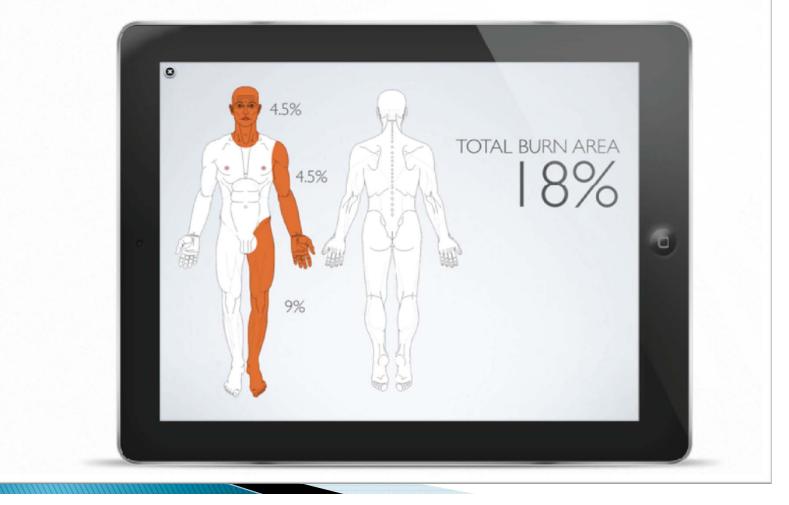
Number of countries that have downloaded the APP: 121





Feature Packed

The Parkland calculator, re-imagined



ATLS mLearning Structure

Course will still meet in person for skill stations 1.5 days which will include 90 minutes of lecture

- Book will be available online
 ibook and other platforms
- Hybrid course
 - Optional
 - Chapters Blueprints for mLearning complete
- Media Development
 - Animations
 - Video
 - Gaming
 - Simulation



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ATLS mLearning Features

Course Participants

- Thirteen modules to coincide with chapters
- PowerPoint, videos, animations, games, and simulations
- Self-assessment quizzes
- Discussion boards
- Secure log in and time out feature



AMERICAN COLLEGE OF SURGEONS Inspiring Quality:

Highest Standards, Better Outcomes

Faculty, Coordinators, Staff

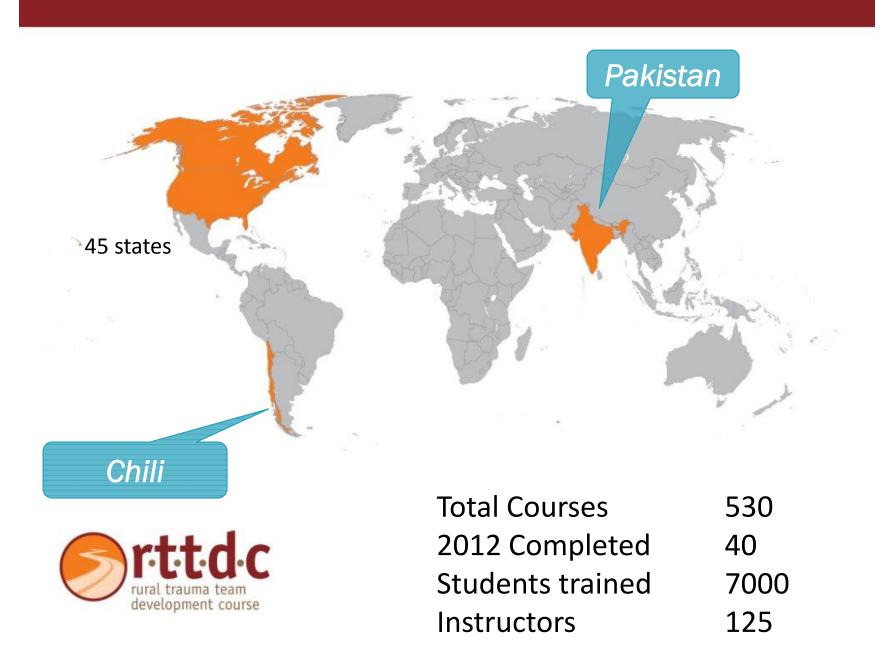
- Analytic Reports (more data)
- Tracking on participant time spent
- E-Commerce System
- Capability for document upload
- User profile linked

ATLS mLearning Timeline

- 20% of the media completed and ready for review at congress
- Content layout and Media finalized by January 2014
- LCMS vendor selected by January 2014
- Pilot testing Spring of 2014



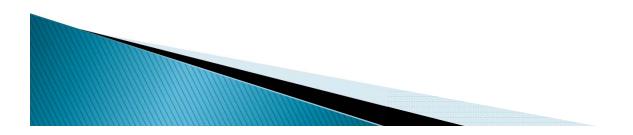




3rd edition Spanish, French

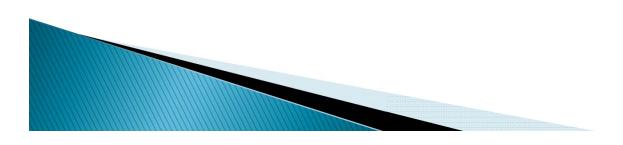
Educational Programs

- Questions?
- Points for discussion?



Advocacy

- ACS has a large advocacy commitment, broad set of priorities including trauma
 - Permanent staff in Washington
 - Separated out as a separate COT function
- Monitor legislation
- Coordinate grass-roots efforts
 - National level
 - Regional level



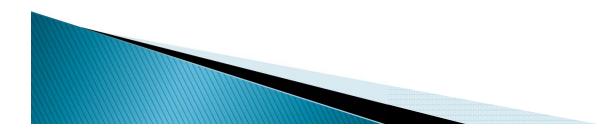
Advocacy

- Comprehensive Federal legislation and funding for trauma systems not yet established
- Trauma system development and operation is a state and regional initiative
 - Development of strong regional support essential
 - Target advocacy at state and regional level



Trauma Legislative Priorities

- Trauma Funding
 - The College supports efforts to raise revenues to alleviate some of the funding problems.
 Funds exclusively allocated to trauma care.
 - Currently only 24 states have a funding mechanism in place for trauma care.
- Injury Prevention
 - Support a number of injury prevention bills including: graduated drivers' licenses; seatbelt requirements; child restraint systems; youth athlete concussion education and prevention; programs to prevent falls by the elderly; motorcycle and bicycle helmet requirements; and all terrain vehicle regulation.
- State Bill Tracker Available on ACS Website: <u>http://www.cqstatetrack.com/texis/viewrpt?event=4b7adbb620d</u>





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Advocacy Resources: State Affairs Staff

Staff is available to:

- Draft legislation/provide model bills
- Provide background and/or issue briefings
- Provide advocacy training

- Provide testimony
- Plan lobby days
- Help plan chapter's legislative agenda
- Connect chapter with other groups/ organizations

Jon Sutton Manager, State Affairs 312/202-5358 jsutton@facs.org

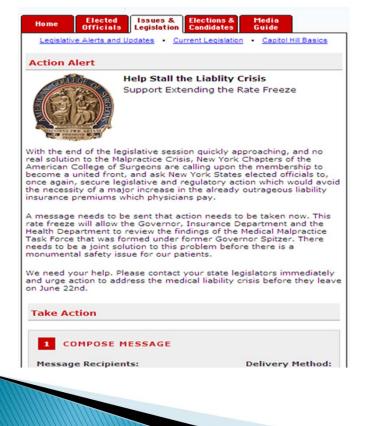


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Advocacy Resources: SSLAC

Surgery State Legislative Action Center (SSLAC)

- <u>www.facs.org/sslac</u>
- Website to help with grassroots advocacy efforts and compendium of state resources.
- Open to Fellows and non-Fellows



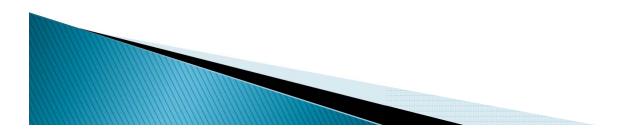




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Advocacy

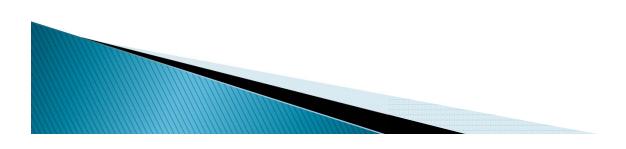
- Questions?
- Points for discussion?



Quality Pillar Committees

EMS

- PHTLS
- Aeromedical standards
- Field triage standards
- Coordination with other organizations
- Rural Trauma
 - Level IV standards
 - Staffing issues
 - Educational challenges



Quality Pillar Committees

- Disaster
 - Coordination with other resources
 - Education
- Prevention
 - Building of inter-organizational coalition
 - Development of tools for prevention activities



Contact Information

Advocacy Pillar

Kristen McDonald- <u>kmcdonald@facs.org</u> 202-672-1509

Information Engine

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Education Pillar

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