

JTACS NOVEMBER TABLE OF CONTENTS

'BEST OF' NOVEMBER ARTICLES

BEST OF BASIC SCIENCES ARTICLE

Endothelial Cell Dysfunction Persists Beyond Resuscitation in Patients With Hemorrhagic Shock

Study Population

Severe trauma / Hemorrhagic Shock (SBP < 90 & 2+ units of pRBC/FFP)

vs.

Minimally Injured (ISS ≤ 9)

Blood collected at 3 timepoints

- Admission
- Post-resuscitation
- After 24 hours

Syndecan-1, miRNA-19b, and inflammatory cytokine levels measured in all three timepoints

Conclusions

- Syndecan-1 & miR-19b elevated through 24 hours
- Admission Syndecan-1 was the strongest predictor for mortality, coagulopathy, and massive transfusion
- Syndecan-1 correlated with pro- and anti-inflammatory cytokines

Zeineddin et al. *Journal of Trauma and Acute Care Surgery*
@JTraumaAcuteSurg

BIOMARKERS OF ENDOTHELIAL CELL DYSFUNCTION PERSIST BEYOND RESUSCITATION IN PATIENTS WITH HEMORRHAGIC SHOCK

[HTTPS://JOURNALS.LWW.COM/JTRAUMA/FULLTEXT/2022/11000/BIOMARKERS_OF_ENDOTHELIAL_CELL_DYSFUNCTION_PERSIST.2.ASPX](https://journals.lww.com/jtrauma/fulltext/2022/11000/biomarkers_of_endothelial_cell_dysfunction_persist.2.aspx)



SCAN HERE TO VIEW A VIDEO OVERVIEW OF THE ARTICLE

<https://qr.page/g/5f7hgsFUR95>

BEST OF TRAUMA ARTICLE

A Multicenter Trial of Management and Outcomes of Pancreatic Injuries: Mechanism and Results

33 Centers

1240 Patients with Pancreatic Injury

- 699 Blunt
- 541 Penetrating

Blunt vs Penetrating

- 35% % High Grade Injuries
- 21% Direct to OR
- 20% Pancreas-related Complications

- 50% High Grade Injuries
- 79% Direct to OR
- 39% Pancreas-related Complications

Conclusions

- Penetrating Mechanism, along with High-grade Pancreatic Injury and Treatment in a Low-Volume Center, is an independent risk factor for pancreas-related complications.
- Mechanism matters in low-grade injuries but may not matter in high-grade injuries.

Walter L. Biffi et al. *Journal of Trauma and Acute Care Surgery*
@JTraumaAcuteSurg

A COMPARISON OF MANAGEMENT AND OUTCOMES FOLLOWING BLUNT VERSUS PENETRATING PANCREATIC TRAUMA: A SECONDARY ANALYSIS FROM THE WTA MULTICENTER TRIALS GROUP ON PANCREATIC INJURIES

[HTTPS://JOURNALS.LWW.COM/JTRAUMA/FULLTEXT/2022/11000/A-COMPARISON_OF_MANAGEMENT_AND_OUTCOMES_FOLLOWING.8.ASPX](https://journals.lww.com/jtrauma/fulltext/2022/11000/a-comparison_of_management_and_outcomes_following.8.aspx)



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BEST OF SCC ARTICLE

Can We Really Make CAUTI A Never Event? A Level 1 Trauma Center's Experience With Prophylactic Antibiotic Bladder Irrigation

Study Population

Trauma Patients, Catheterized 3+ days

- Gentamicin bladder installation N=86
- Control N=256

Results

Patients in the gentamicin group experienced significantly fewer CAUTIs

CAUTIs per 1000 catheterized days

Control: 4.3, Gentamicin: 0, P < 0.018

Conclusions

- ✓ Prophylactic antibiotic bladder irrigation was associated with a zero incidence of CAUTI among trauma patients at risk for CAUTI.
- ✓ Next steps: RCT

Rieger et al. *Journal of Trauma and Acute Care Surgery*
@JTraumaAcuteSurg

CAN WE REALLY MAKE CAUTI A NEVER EVENT? A LEVEL 1 TRAUMA CENTER'S EXPERIENCE WITH PROPHYLACTIC ANTIBIOTIC BLADDER IRRIGATION

[HTTPS://JOURNALS.LWW.COM/JTRAUMA/FULLTEXT/2022/11000/CAN_WE_REALLY_MAKE_CATHETER_ASSOCIATED_URINARY.9.ASPX](https://journals.lww.com/jtrauma/fulltext/2022/11000/can_we_really_make_catheter_associated_urinary.9.aspx)



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BEST OF EGGS ARTICLE

Common Bile Duct Stones (CBD) Management: A Network Meta-Analysis

Comparing CBD Management

42 studies from 2010-2020

Network Meta-Analysis

*Operative = Laparoscopic Cholecystectomy

Conclusions

- Decreased Length of Hospital Stay for 1-stage procedures
- Different complication profiles

Mohseni et al. *Journal of Trauma and Acute Care Surgery*
@JTraumaAcuteSurg @thefighter_sm

COMMON BILE DUCT STONES MANAGEMENT: A NETWORK META-ANALYSIS

[HTTPS://JOURNALS.LWW.COM/JTRAUMA/FULLTEXT/2022/11000/COMMON_BILE_DUCT_STONES_MANAGEMENT_A_NETWORK.22.ASPX](https://journals.lww.com/jtrauma/fulltext/2022/11000/common_bile_duct_stones_management_a_network.22.aspx)



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Zelineddin et al. *Journal of Trauma and Acute Care Surgery*
@JTraumaAcuteSurg

Post-Injury Platelet Aggregation and Venous Thromboembolism

133 trauma patients Admitted to ICU
≥3 days length of stay
Median ISS 25

Blood samples at 0hr and 24hr

0 hr 24 hr
Ex-vivo platelet aggregation at 0hr and 24hr

Larger DELTA = Increased odds VTE

Identifies patients at increased risk for VTE

Future studies of platelet directed VTE prophylaxis warranted

Matthay et al. *Journal of Trauma and Acute Care Surgery*, April 2022
@JTraumaAcuteSurg

BIOMARKERS OF ENDOTHELIAL CELL DYSFUNCTION PERSIST BEYOND RESUSCITATION IN PATIENTS WITH HEMORRHAGIC SHOCK
[HTTPS://JOURNALS.LWW.COM/JTRAUMA/FULLTEXT/2022/11000/BIOMARKERS_OF_ENDOTHELIAL_CELL_DYSFUNCTION_PERSIST.2.ASPX](https://journals.lww.com/jtrauma/fulltext/2022/11000/biomarkers_of_endothelial_cell_dysfunction_persist.2.aspx)

POST-INJURY PLATELET AGGREGATION AND VENOUS THROMBOEMBOLISM
[HTTPS://JOURNALS.LWW.COM/JTRAUMA/FULLTEXT/2022/11000/POSTINJURY_PLATELET_AGGREGATION_AND_VENOUS.6.ASPX](https://journals.lww.com/jtrauma/fulltext/2022/11000/postinjury_platelet_aggregation_and_venous.6.aspx)

Trauma-induced hyperfibrinolysis and fibrinolysis shutdown phenotypes can be distinguished by thrombin generation and fibrin structure, but not plasmin generation potential

Study Population

LY30 (%)

N: 9 (Trauma) 11 (Hyperfibrinolysis) 12 (Control)

Results

Conclusions

Initial Injury → Coagulation Initiation → Thrombin Generation → Fibrin Formation → Fibrinolysis

Lawson, MA, et al. *Journal of Trauma and Acute Care Surgery*, Month Year [doi]
@JTraumaAcuteSurg

Recombinant human MG53 protein attenuates brain lesion size in a large animal model of traumatic brain injury

- Traumatic Brain Injury (TBI) is a leading cause of death and disability in trauma
- MG53 is a cell membrane and regenerative protein
- Rodent and in-vitro models with protective effect of recombinant human (rhMG53) in organ injury

Swine model of TBI

Control: Normal saline

Treatment: rhMG53, IV, 2mg/kg

Randomized immediately following injury

Brain lesion size was attenuated in rhMG53 group

rhMG53 localizes to the injured region

A promising future therapy for TBI

Jin et al. *Journal of Trauma and Acute Care Surgery*
@JTraumaAcuteSurg

PLASMA-BASED ASSAYS DISTINGUISH HYPERFIBRINOLYSIS AND SHUTDOWN SUBGROUPS IN TRAUMA-INDUCED COAGULOPATHY
[HTTPS://JOURNALS.LWW.COM/JTRAUMA/FULLTEXT/2022/11000/PLASMA_BASED_ASSAYS_DISTINGUISH_HYPERFIBRINOLYSIS.3.ASPX](https://journals.lww.com/jtrauma/fulltext/2022/11000/plasma_based_assays_distinguish_hyperfibrinolysis.3.aspx)

RECOMBINANT HUMAN MG53 PROTEIN ATTENUATES BRAIN LESION SIZE IN A LARGE ANIMAL MODEL OF TRAUMATIC BRAIN INJURY
[HTTPS://JOURNALS.LWW.COM/JTRAUMA/FULLTEXT/2022/11000/RECOMBINANT_HUMAN_MG53_PROTEIN_ATTENUATES_BRAIN.7.ASPX](https://journals.lww.com/jtrauma/fulltext/2022/11000/recombinant_human_mg53_protein_attenuates_brain.7.aspx)

Post-injury Complement C4 Activation is Associated with Adverse Outcomes and is Potentially Influenced by Plasma Resuscitation

Study Population

118 Injured Patients, Hypotensive in Field

Male	82%
Age (median)	35.7 years
NISS (median)	27
ED Base Deficit (median)	9mEq/L
Massive Transfusion	20.30%
Multiple Organ Failure	4.20%
Vent-free Days (median)	26
ARDS	28.70%
Death	11%

Plasma samples collected for proteomics

Results

Lower Levels of Activation

Classical, Lectin, Alternative

Mechanisms?

Therapy?

Conclusions

Plasma Resuscitation

Schaal et al. *Journal of Trauma and Acute Care Surgery*, May 2022
@JTraumaAcuteSurg

POST-INJURY COMPLEMENT C4 ACTIVATION IS ASSOCIATED WITH ADVERSE OUTCOMES AND IS POTENTIALLY INFLUENCED BY PLASMA RESUSCITATION
[HTTPS://JOURNALS.LWW.COM/JTRAUMA/FULLTEXT/2022/11000/POSTINJURY_COMPLEMENT_C4_ACTIVATION_IS_ASSOCIATED.4.ASPX](https://journals.lww.com/jtrauma/fulltext/2022/11000/postinjury_complement_c4_activation_is_associated.4.aspx)

A Multicenter Trial of Management and Outcomes of Pancreatic Injuries: Mechanism Matters

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1240 Patients with Pancreatic Injury

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Walter L. Biffl et al. *Journal of Trauma and Acute Care Surgery*
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tPA Resistance: An Early Predictor of Post Traumatic VTE

Study Population

CLOTT-2: Prospective, observational

X 5 Trauma Centers

Risk Factors Venous Thrombo Embolic Event

Role of Fibrinolysis?

Results

141 Patients Serial Coag Assessment

+ tPA

<2.1% Lysis

From ICU Admit

HR VTE 5.87

95% CI 1.39-22.39

Conclusions

tPA resistance early quantifiable risk factor VTE in ICU

Knudson et al. *Journal of Trauma and Acute Care Surgery*
@JTraumaAcuteSurg

TISSUE PLASMINOGEN ACTIVATOR RESISTANCE IS AN EARLY PREDICTOR OF POST-TRAUMATIC VENOUS THROMBOEMBOLISM: A PROSPECTIVE STUDY FROM THE CLOTT RESEARCH GROUP
[HTTPS://JOURNALS.LWW.COM/JTRAUMA/FULLTEXT/2022/11000/TISSUE_PLASMINOGEN_ACTIVATOR_RESISTANCE_IS_AN.5.ASPX](https://journals.lww.com/jtrauma/fulltext/2022/11000/tissue_plasminogen_activator_resistance_is_an.5.aspx)

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CAUTIs per 1000 catheterized days

5 4 3 2 1 0

Control 4.3 Gentamicin 0

P = 0.018

Conclusions


- ✓ Prophylactic antibiotic bladder irrigation was associated with a zero incidence of CAUTI among trauma patients at risk for CAUTI.
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Rieger et al. *Journal of Trauma and Acute Care Surgery*
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CAN WE REALLY MAKE CAUTI A NEVER EVENT? A LEVEL 1 TRAUMA CENTER'S EXPERIENCE WITH PROPHYLACTIC ANTIBIOTIC BLADDER IRRIGATION
[HTTPS://JOURNALS.LWW.COM/JTRAUMA/FULLTEXT/2022/11000/CAN_WE_REALLY_MAKE_CATHETER_ASSOCIATED_URINARY.9.ASPX](https://journals.lww.com/jtrauma/fulltext/2022/11000/can_we_really_make_cauti_a_never_event.9.aspx)

Reading the Signs in Penetrating Cervical Vascular Injuries

Study Population
PROOVIT dataset
Penetrating neck injuries: 232 patients



Results

Hard Signs
n = 110

↓

Diagnostic Imaging
45%

↓

Observation
43%

20% Overall

Conclusions

Early CT imaging =
Reduced operations +
facilitated
observational
management

Marrotte et al. *Journal of Trauma and Acute Care Surgery*.
@JTraumaAcuteSurg

Coming in Hot: Police Transport and Pre-Hospital Time After Firearm Injury

More Severe Injuries

Police Data
Hospital Data

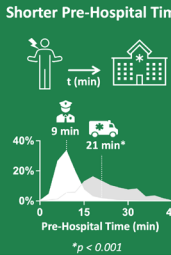
↓

Linked Study Data

Patients	977	320
Shock*	20%	13%
Severe Injury**	56%	43%

*p = 0.018 **p < 0.001

Shorter Pre-Hospital Time



t (min)

9 min 21 min*

*p < 0.001

More Unexpected Survivors

6-HR Survival	OR 6.30*
NNT = 25	
24-HR Survival	OR 4.19**
NNT = 49	

*p < 0.001 **p = 0.021

Winter et al. *Journal of Trauma and Acute Care Surgery*.
@JTraumaAcuteSurg


READING THE SIGNS IN PENETRATING CERVICAL VASCULAR INJURIES: ANALYSIS OF HARD/SOFT SIGNS AND INITIAL MANAGEMENT FROM A NATIONWIDE VASCULAR TRAUMA DATABASE.
[HTTPS://JOURNALS.LWW.COM/JTRAUMA/FULLTEXT/2022/11000/READING_THE_SIGNS_IN_PENETRATING_CERVICAL_VASCULAR.10.ASPX](https://journals.lww.com/jtrauma/fulltext/2022/11000/reading_the_signs_in_penetrating_cervical_vascular.10.aspx)

COMING IN HOT: POLICE TRANSPORT AND PRE-HOSPITAL TIME AFTER FIREARM INJURY
[HTTPS://JOURNALS.LWW.COM/JTRAUMA/FULLTEXT/2022/11000/COMING_IN_HOT_POLICE_TRANSPORT_AND_PREHOSPITAL.14.ASPX](https://journals.lww.com/jtrauma/fulltext/2022/11000/coming_in_hot_police_transport_and_prehospital.14.aspx)

Prospective Evaluation of the Selective Nonoperative Management (SNOM) of Abdominal Stab Wounds: When is it Safe to Discharge?

Study Population

256 abdominal stab wounds




07/2018-05/2021

Results

- 18% Immediate OR
- 13% OR after positive CT
- 2% failed observed within 24 hrs

Conclusions

Clinical examination is essential




Minimum of 24 hours observation is warranted prior to discharge

Owattanapanich et al. *Journal of Trauma and Acute Care Surgery*.
@JTraumaAcuteSurg

Accessibility of Level III Trauma Centers for Underserved Populations: A Cross-sectional Study

22% Lack Timely Access to Trauma Center Care




From 2010 to 2019:

- ↑ Access to Level I/II
- ↓ Access to Level III

39% of Black Residents Served by Level III Centers

>40% of Rural and Indigenous Residents Lack Access to Care



Jarman et al. *Journal of Trauma and Acute Care Surgery*.
@JTraumaAcuteSurg

PROSPECTIVE EVALUATION OF THE SELECTIVE NONOPERATIVE MANAGEMENT OF ABDOMINAL STAB WOUNDS: WHEN IS IT SAFE TO DISCHARGE?
[HTTPS://JOURNALS.LWW.COM/JTRAUMA/FULLTEXT/2022/11000/PROSPECTIVE_EVALUATION_OF_THE_SELECTIVE.11.ASPX](https://journals.lww.com/jtrauma/fulltext/2022/11000/prospective_evaluation_of_the_selective.11.aspx)

ACCESSIBILITY OF LEVEL III TRAUMA CENTERS FOR UNDERSERVED POPULATIONS: A CROSS-SECTIONAL STUDY
[HTTPS://JOURNALS.LWW.COM/JTRAUMA/FULLTEXT/2022/11000/ACCESSIBILITY_OF_LEVEL_III_TRAUMA_CENTERS_FOR.15.ASPX](https://journals.lww.com/jtrauma/fulltext/2022/11000/accessibility_of_level_iii_trauma_centers_for.15.aspx)

N-Acetylcysteine Is Associated With Reduction Of Post Concussive Symptoms In Elderly Patients: A Prospective Clinical Trial

ELDERLY PATIENTS WITH MILD TBI

INTERVENTION HOSPITAL + NAC

CONTROL HOSPITAL

POST-CONCUSSION SYMPTOM EVALUATION USING RIVERMEADE POST-CONCUSSION SYMPTOMS QUESTIONNAIRE

DATA ASSESSED ON ADMIT, DAY 7 & 30

RPQ scores:

	NAC group (n=34)	Control (n=31)	P pairwise
Day 0	6 (0-20)	11 (4-20)	.300
Day 7	2 (0-8)	10 (3-18)	.004
Day 30	0 (0-4)	4 (0-13)	.021


P. w/in subject <.001 .319

Significant improvement in NAC group but not in control

Mcpherson et al. *Journal of Trauma and Acute Care Surgery*.
@JTraumaAcuteSurg

SIRT1 Deletion Increases Inflammation and Mortality in CLP Sepsis


SIRT1 deletion in a CLP mouse model



↑ Inflammation (p=0.03)

↑ Mortality (p=0.03)


Myeloid-specific SIRT1 deletion in a CLP mouse model



↑ Inflammation (p=0.03)

↑ Mortality (p=0.05)

Targeting SIRT1 in myeloid cells may help improve outcomes in patients with sepsis



Labiner et al. *Journal of Trauma and Acute Care Surgery*.
@JTraumaAcuteSurg

N-ACETYLCYSTEINE IS ASSOCIATED WITH REDUCTION OF POST CONCUSSIVE SYMPTOMS IN ELDERLY PATIENTS: A PILOT STUDY
[HTTPS://JOURNALS.LWW.COM/JTRAUMA/FULLTEXT/2022/11000/N-ACETYLCYSTEINE_IS_ASSOCIATED_WITH_REDUCTION_OF.12.ASPX](https://journals.lww.com/jtrauma/fulltext/2022/11000/n-acetylcysteine_is_associated_with_reduction_of.12.aspx)

SIRT1 DELETION INCREASES INFLAMMATION AND MORTALITY IN SEPSIS
[HTTPS://JOURNALS.LWW.COM/JTRAUMA/FULLTEXT/2022/11000/SIRTUIN_1_DELETION_INCREASES_INFLAMMATION_AND.16.ASPX](https://journals.lww.com/jtrauma/fulltext/2022/11000/sirtuin_1_deletion_increases_inflammation_and.16.aspx)

Understanding the Causes of Pediatric Pedestrian Versus Automobile Collisions (P-AC)

METHODS

770 trauma activated patients evaluated after pedestrian v auto collisions (P-AC) in children (<18y.o.)

Clinical/demographic information + Traffic scene data + Area Deprivation Index used to identify risk factors for pediatric P-AC.

Area Deprivation Index (ADI)
is census tracted data at the neighborhood level based on 17 key socioeconomic indicators:

- 2 Education
- 1 Social
- 3 Transportation
- 4 Economic
- 7 Housing

RESULTS

In the most socioeconomically disadvantaged neighborhoods (high ADI), risk factors for pediatric P-AC:

- Close proximity to home (less than 0.5 miles)
- Poor streetlight conditions
- Before and after school hours

CONCLUSIONS

Hispanic ethnicity & greater neighborhood socioeconomic disadvantage (ADI) was associated w/ P-AC in children.

ADI utility


- Allows understanding of healthcare disparities in pediatric trauma
- Identify risk factors for P-AC in children to improve outcomes.
- Injury prevention programs should target neighborhoods at increased risk to be more effective.

de Cos et al. *Journal of Trauma and Acute Care Surgery*.
@JTraumaAcuteSurg


Does patient preference for online or telephone follow-up impact on response rates and data completeness following injury?

At 6 months post-injury

51% chose online follow-up



49% chose telephone follow-up



Participants opting for online completion:

- Younger age
- Higher socioeconomic status
- Preferred language other than English

EQ-5D-5L
97% completion rate for online and phone

12-item WHODAS
63% completion online
86% completion by phone

Gabbe et al. *Journal of Trauma and Acute Care Surgery*.
@JTraumaAcuteSurg

INTEGRATING TRAFFIC SAFETY DATA WITH AREA DEPRIVATION INDEX: A METHOD TO BETTER UNDERSTAND THE CAUSES OF PEDIATRIC PEDESTRIAN VERSUS AUTOMOBILE COLLISIONS
[HTTPS://JOURNALS.LWW.COM/JTRAUMA/FULLTEXT/2022/11000/INTEGRATING_TRAFFIC_SAFETY_DATA_WITH_AREA.13.ASPX](https://journals.lww.com/jtrauma/fulltext/2022/11000/integrating_traffic_safety_data_with_area.13.aspx)

DOES PATIENT PREFERENCE FOR ONLINE OR TELEPHONE FOLLOW-UP IMPACT ON RESPONSE RATES AND DATA COMPLETENESS FOLLOWING INJURY?
[HTTPS://JOURNALS.LWW.COM/JTRAUMA/FULLTEXT/2022/11000/DOES_PATIENT_PREFERENCE_FOR_ONLINE_OR_TELEPHONE.17.ASPX](https://journals.lww.com/jtrauma/fulltext/2022/11000/does_patient_preference_for_online_or_telephone.17.aspx)

The Extent to Which Geography Explains One of Trauma's Troubling Trends: Insurance-Based Differences in Appropriate Inter-Facility Transfer

State Inpatient/Emergency Department Databases | 16-64 years with major injuries (ISS > 15) | N = 48,283 | 2007-2014
Admitted vs Transferred from NTC ED | 492 NTC

Differences in health insurance
Private, Medicare, Medicaid, Other vs Uninsured

Due to Geography? Significantly associated (p<0.001) ...
But, in contrast to expectations, **increased** admissions at:

- NTC < 5 min by road from L1 or L2 TC
- NTC < 6.0 km by road from L1 or L2 TC
- NTC wealthiest patients (lowest Area Deprivation Index)

Geographic spatial analysis + Risk-adjusted hierarchical logistic regression

Geography alone **does not** explain differences in insurance-based transfer ...
Additional, potentially subjective, elements to triage disparities are likely to exist

Zogg et al. *Journal of Trauma and Acute Care Surgery*.
@JTraumaAcuteSurg

THE EXTENT TO WHICH GEOGRAPHY EXPLAINS ONE OF TRAUMA'S TROUBLING TRENDS: INSURANCE-BASED DIFFERENCES IN APPROPRIATE INTER-FACILITY TRANSFER
[HTTPS://JOURNALS.LWW.COM/JTRAUMA/FULLTEXT/2022/11000/THE_EXTENT_TO_WHICH_GEOGRAPHY_EXPLAINS_ONE_OF.18.ASPX](https://journals.lww.com/jtrauma/fulltext/2022/11000/the_extent_to_which_geography_explains_one_of.18.aspx)

Common Bile Duct Stones (CBD) Management: A Network Meta-Analysis

Comparing CBD Management | Network Meta-Analysis | Conclusions

42 studies from 2010-2020

Preoperative ERCP
Intraoperative ERCP
Postoperative ERCP
CBD Exploration

Decreased Length of Hospital Stay for 1-stage procedures
Different complication profiles

Mohseni et al. *Journal of Trauma and Acute Care Surgery*.
@JTraumaAcuteSurg @thefighter_sm

COMMON BILE DUCT STONES MANAGEMENT: A NETWORK META-ANALYSIS
[HTTPS://JOURNALS.LWW.COM/JTRAUMA/FULLTEXT/2022/11000/COMMON_BILE_DUCT_STONES_MANAGEMENT_A_NETWORK.22.ASPX](https://journals.lww.com/jtrauma/fulltext/2022/11000/common_bile_duct_stones_management_a_network.22.aspx)

In-Hospital Outcomes of Intercostal Nerve Cryoablation and Surgical Stabilization of Rib Fractures

68 rib fracture patients at a level 1 trauma center

44 INCA + SSRF vs 24 SSRF alone

INCA + SSRF may help improve in-hospital outcomes

Less total opioids (71%)
Home more often (28%)
Less tracheostomies (20.4%)
Shorter ICU length of stay (1.4 day)

Fernandez et al. *Journal of Trauma and Acute Care Surgery*. 02/2022 [doi]
@JTraumaAcuteSurg

IN-HOSPITAL OUTCOMES OF INTERCOSTAL NERVE CRYOABLATION AND SURGICAL STABILIZATION OF RIB FRACTURES
[HTTPS://JOURNALS.LWW.COM/JTRAUMA/FULLTEXT/2022/11000/IN-HOSPITAL_OUTCOMES_OF_INTERCOSTAL_NERVE.19.ASPX](https://journals.lww.com/jtrauma/fulltext/2022/11000/in-hospital_outcomes_of_intercostal_nerve.19.aspx)

Treatment of Penetrating Cardiac Wounds for the General Surgeon on Call

Techniques for controlling hemorrhage and cardiac repair:
Digital compression
Foley balloon catheter
Stapler
Sattinsky vascular clamp
Allis clamps
Horizontal mattress sutures
Inflow occlusion
IV adenosine (induce asystole)

Indications for postoperative workup:
New-onset murmur
Arrhythmia
Congestive heart failure

EKG/2D ECHO
Cardiac catheterization*
Cardiac MRI*
Long-term surveillance*
*as indicated

Khaitan et al. *Journal of Trauma and Acute Care Surgery*.
Month Year [doi]
@JTraumaAcuteSurg

TREATMENT OF PENETRATING CARDIAC WOUNDS FOR THE GENERAL SURGEON ON CALL
[HTTPS://JOURNALS.LWW.COM/JTRAUMA/FULLTEXT/2022/11000/TREATMENT_OF_PENETRATING_CARDIAC_WOUNDS_FOR_THE.23.ASPX](https://journals.lww.com/jtrauma/fulltext/2022/11000/treatment_of_penetrating_cardiac_wounds_for_the.23.aspx)

Early expression of IL-10, IL-12, ARG1 and NOS2 genes in peripheral blood mononuclear cells synergistically correlate with patient lung dysfunction, infection, and mortality after burn injury

Burn injury induces immune suppression and susceptibility to infection.

Development of a rapid clinical biomarker assay that evaluates a burn patient's underlying immune dysfunction and predicts clinical outcomes could transform burn care.

Blood immune cells collected within two days of burn injury from used to:

Step 1: Narrow down 594 immune genes to four that associate with burn severity and mortality

Step 2: Show the four immune genes correlate with poor clinical outcomes after burn injury

Acute lung injury | Graft failure | Mortality | Infection

Later poor patient outcomes were predicted, allowing early identification of underlying immune dysfunction

Mahung et al. *Journal of Trauma and Acute Care Surgery*.
@JTraumaAcuteSurg

EARLY EXPRESSION OF IL-10, IL-12, ARG1 AND NOS2 GENES IN PERIPHERAL BLOOD MONONUCLEAR CELLS SYNERGISTICALLY CORRELATE WITH PATIENT OUTCOME AFTER BURN INJURY.
[HTTPS://JOURNALS.LWW.COM/JTRAUMA/FULLTEXT/2022/11000/EARLY_EXPRESSION_OF_IL_10_IL_12_ARG1_AND_NOS2.20.ASPX](https://journals.lww.com/jtrauma/fulltext/2022/11000/early_expression_of_il_10_il_12_arg1_and_nos2.20.aspx)

Transcriptome reveals the dysfunction of pancreatic islets after wound healing in severely burned mice

Background and methods
Severely burned patients have a higher risk of diabetes mellitus after healing, but its mechanism remains unclear. Therefore, the purpose of the study was to explore the influence of burns on pancreatic islets of mice after wound healing.
A 30% total body surface area full-thickness burn model was established using male C57BL/6 mice. mRNA sequencing for islets was conducted after eight weeks post severe burns and differentially expressed genes were analyzed.

Results
The levels of fasting blood glucose were significantly higher within eight weeks post severe burns. Totally 128 DEGs were selected. GO and GSEA analysis indicated that the pathways related to the cell cycle, protein processing, and oxidative phosphorylation were down-regulated. The expressions of DEGs related to the cell cycle showed a consistent trend with mRNA sequencing data, and most of them were down-regulated post severe burns. The concentration of ATP and the amount of mtDNA were lower in the burn group.

Conclusion
In the model of severe-burned mice, disorders in glucose metabolism persist for 8 weeks after burns, which may be related to low islet cell proliferation, downregulation of protein processing, and less ATP production.

Liu et al. *Journal of Trauma and Acute Care Surgery*.
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TRANSCRIPTOME REVEALS THE DYSFUNCTION OF PANCREATIC ISLETS AFTER WOUND HEALING IN SEVERELY BURNED MICE
[HTTPS://JOURNALS.LWW.COM/JTRAUMA/FULLTEXT/2022/11000/TRANSCRIPTOME_REVEALS_THE_DYSFUNCTION_OF.21.ASPX](https://journals.lww.com/jtrauma/fulltext/2022/11000/transcriptome_reveals_the_dysfunction_of.21.aspx)

NO VISUAL ABSTRACT PROVIDED
THE VIPOMA
[HTTPS://JOURNALS.LWW.COM/JTRAUMA/FULLTEXT/2022/11000/THE_VIPOMA.1.ASPX](https://journals.lww.com/jtrauma/fulltext/2022/11000/the_vipoma.1.aspx)

A LETTER TO THE EDITOR
RE: A MULTICENTER VALIDATION OF THE MODIFIED BRAIN INJURY GUIDELINES (MBIG): ARE THEY SAFE AND EFFECTIVE?
[HTTPS://JOURNALS.LWW.COM/JTRAUMA/FULLTEXT/2022/11000/LETTER_TO_EDITOR_RE_A_MULTICENTER_VALIDATION_OF.24.ASPX](https://journals.lww.com/jtrauma/fulltext/2022/11000/letter_to_editor_re_a_multicenter_validation_of.24.aspx)

A LETTER TO THE EDITOR
PREHOSPITAL LOW TITER GROUP O WHOLE BLOOD: DIFFICULT TO CONCLUDE.
[HTTPS://JOURNALS.LWW.COM/JTRAUMA/FULLTEXT/2022/11000/PREHOSPITAL_LOW_TITER_GROUP_O_WHOLE_BLOOD.26.ASPX](https://journals.lww.com/jtrauma/fulltext/2022/11000/prehospital_low_titer_group_o_whole_blood.26.aspx)

A LETTER TO THE EDITOR
TRAUMA TRANSFERS DISCHARGED FROM THE EMERGENCY DEPARTMENT—IS THERE A ROLE FOR TELEMEDICINE?
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AUTHOR'S REPLY
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[HTTPS://JOURNALS.LWW.COM/JTRAUMA/FULLTEXT/2022/11000/RESPONSE_TO_LETTER_TO_THE_EDITOR_RE_A.25.ASPX](https://journals.lww.com/jtrauma/fulltext/2022/11000/response_to_letter_to_the_editor_re_a.25.aspx)

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