

Dealing with Dogma: Challenging the Myths in Medicine

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Prasad, V., et al. REVERSALS OF ESTABLISHED MEDICAL
PRACTICES: EVIDENCE TO ABANDON SHIP, JAMA
307(1):37, January 4, 2012

- 35 clinical trials published in 2009
- Established practices
- Evidence contradicted current practice
- 46%



Courtesy Shoop family Pat Shoop, center, received a fecal transplant to treat a life-threatening Clostridium difficile infection. The 75-year-old Minneapolis teacher was transplanted with stool from her husband, Bob, left, in a procedure that a new review shows is effective in 92 percent of cases. The couple's children are Doug Shoop, far left, and Teri Quamme, far right.

After 52 years of marriage, Pat Shoop thought she'd shared every intimacy possible with her husband, Bob.

But that was before she became so ill with a Clostridium difficile infection last year that doctors suggested that a spousal stool transplant -- yes, a dose of Bob's feces -- might be the only way to save her life.

"I'd heard of intercourse, but I'd never heard of 'pooper-course,'" Shoop, 75, of Minnetonka, Minn., jokes now. At the time, though, there was nothing funny about it.

"I was so sick, I didn't care," she recalled. "It feels like the worst case of flu you could possibly, possibly have."

Shoop, a longtime schoolteacher, was suffering from recurrent C. diff infection, a potentially life-threatening bacterial illness that causes severe diarrhea, abdominal pain, nausea and vomiting. It comes back again and again, resisting most treatments, except, as it turns out, an infusion of stool from a healthy donor.

Yin ZG. A comparison of traditional digital blocks and single subcutaneous palmar injection blocks at the base of the finger and a meta-analysis of the digital block trials. J Hand Surg Br. 2006 Oct;31(5):547-55. Epub 2006 Aug 22.

J Hand Surg Am. 1990 May;15(3):471-7.

Transthecal digital block: flexor tendon sheath used for anesthetic infusion.

Antevy PM. Evaluation of a transthecal digital nerve block in the injured pediatric patient; Pediatr Emerg Care. 2010 Mar;26(3):177-80.

Pain "0" at 5 min 47/50 (1 finger 2 thumbs)

Orthostatic VS

Annals of Emergency Medicine
Volume 20, Issue 6 , Pages 606-610,
June 1991

132 euvoletic, patients

Wide variation in Orthostatic vital signs

HR range ↓ 5.0 to ↑ 39.4 ; SBP: ↓
20 to ↑ 25.7; DBP: ↓ 6.4 to ↑ 24.9;
43% had “positive”

Orthostatic VS

Larry J. Baraff, et al. Orthostatic vital signs: Variation with age, specificity, and sensitivity in detecting a 450-mL blood loss. The American Journal of Emergency Medicine. Volume 10, Issue 2, March 1992, Pages 99-103.

100 Blood donors v. 100 non donor

Alone: HR > 20/min most sensitive: 9%

HR > 20 or DBP decrease of 10, Sensitivity: 17%

Age: No clinically important differences

No combo of Ortho VS (spec 95%) sensitive to detect 450 cc blood loss

Hydration and Stones

- [Worster A, Richards C](#). **Fluids and diuretics for acute ureteric colic**. Cochrane Database Syst Rev. 2005 Jul 20;(3):CD004926. Diuretics, High Volume Fluids or Oral Fluids
1 Article: No difference in pain, surgical removal rates or cystoscopy rates
- [Springhart WP](#), et al. Forced versus minimal intravenous hydration in the management of acute renal colic: a randomized trial. J Endourol. 2006 Oct;20(10):713-6.
58 Pts
20cc /hr v. 1 L/hr x 2 hours
No difference: Hourly pain scores, Narcotic analgesic use or Passage rates

Capnography?

- Agus MS. Continuous non-invasive end-tidal CO₂ monitoring in pediatric inpatients with diabetic ketoacidosis. Pediatr Diabetes. 2006 Aug;7(4):196-200.
 - Excellent correlation with serum total CO₂, venous HCO₃ and venous pCO₂
 - Useful for identifying early trends
- Nasal capnography may predict DKA
 - J Paediatr Child Health. 2007 Oct;43(10):677-80
 - 58 cases; 26% (15) had DKA: 0/15 had an ETCO₂ > 30

CT First?

G. P. Duffy. Lumbar Puncture in the Presence of Raised Intracranial Pressure, Br Med J 1969;1:407-409 (15 February)

30 Pts (50% immediate 50% 12 hours)

Progressive HA, mental status change and localizing neurological findings

“A good quality plain x-ray film is important in the diagnosis of this condition”

Succinyl Choline does not Sux

- Schow, A.J., et al, Can Succinyl choline be used safely in hyperkalemic patients? Anesth Analg 95(1):119, 2002.
- 15 case reports > 30 yrs old
- ESRD with preop Hyperkalemia
- 4/15 0/15
- 41,117 Pts (1995-2001) 38 with increased K+

Shellfish?

- Schabelman E, Witting M. The relationship of radiocontrast, iodine, and seafood allergies: a medical myth exposed. J Emerg Med. 2010 Nov; 39(5):701-7. Epub 2010 Jan 4.
- “Iodine is not an allergen!”
- Seafood = other food allergies and asthma
- Prior contrast reaction = 7-17% risk

DIGITAL RECTAL EXAMINATION FOR TRAUMA: DOES EVERY PATIENT NEED ONE? Porter, J.M., et al, Am Surg 67(5):438, May 2001

Rosenberg M. Comparison of Broselow tape measurements versus physician estimations of pediatric weights
The American Journal of Emergency Medicine; April, 2010

- 372 Patients
- Mean age: 45.7 months
- Obesity
 - Physician 26.4%
 - Broselow 16.0%

Toe Fxs

Van Vliet-Koppert ST. Demographics and functional outcome of toe fractures. J Foot Ankle Surg. 2011 May-Jun;50(3): 307-10. Epub 2011 Mar 25.

- 339 Pts with toe Fxs
- 75.6% stubbing or crush injuries
- 1st: 38%
- 5th: 30%
- Conservative management
- No diff in outcome: toe, #, phalanx, age, co-morbidity,
- BMI, Fx type and location or intraarticular

Management of Minor Head Injury in Patients Receiving Oral Anticoagulant Therapy: A Prospective Study of a 24-Hour Observation Protocol

Vincenzo G. Menditto, MD, Moira Lucci, MD, Stefano Polonara, MD, Giovanni Pomponio, MD, Armando Gabrielli, MD

- 87 ED patients with minor head trauma on Coumadin
- 60-93 yrs
- 16%
- 6%
- Greatest risk: Age > 65 and INR > 3
- RR= 14

CAN ASYMPTOMATIC PATIENTS WITH A SUPRATHERAPEUTIC INTERNATIONAL NORMALIZED RATIO BE SAFELY TREATED AS OUTPATIENTS Levine, M., et al, Ann Emerg Med 59(4):318, April 2012

CT for Stroke

- Mullins, et al. CT and Conventional and Diffusion-weighted MR Imaging in Acute Stroke: Study in 691 Patients at Presentation to the Emergency Department. Radiology August 2002
- < 12 hours
- CT: 42% 2-3 days later: 77%
- MR (DW): 97%

Banana Bag?

- Li, S.F., et al. VITAMIN DEFICIENCIES IN ACUTELY INTOXICATED PATIENTS IN THE ED Am J Emerg Med 26:792, September 2008.
- 75 acutely intoxicated ED patients (Bronx)
- ETOH Levels: 23 – 560!
- B12, Folate and Thiamine Levels
- 0/0/15%

Oral Contrast?

THE LACK OF EFFICACY FOR ORAL CONTRAST IN THE DIAGNOSIS OF APPENDICITIS BY COMPUTED TOMOGRAPHY Laituri, C.A., et al, J Surg Res 170(1):100, September 2011

- 1,561 Pts
- Mean age: 10 yrs
- Vomiting 19% with appy
- Terminal ileum: 67% with appy
- Ileum or not: No Dx diff

Head CT and Syncope

- Arch Intern Med 161:1889, August 13/27, 2001
 - 649 Adults admitted for syncope
 - CT of the head: 2% diagnostic yield
- Shukla GJ. Syncope. Circulation 2006;113:e715-e717
 - Stroke is a rare cause of syncope

Labs and Syncope

Ann Emerg Med 40(2):180, August 2002

721 AMI Patients: Syncope CC: 4%

J Gen Intern Med 7(4):379, July- August 1992

0.5% - 1.1%: Ischemic cause of syncope

Grossman SA. The value of cardiac enzymes in elderly patients presenting to the emergency department with syncope. J Gerontol A Biol Sci Med Sci. 2003 Nov;58(11):1055-8.

2.1% + All had chest pain and ECG changes

Seymour, A., et al, Pelvic Examination Is Unnecessary In Pregnant Patients With A Normal Bedside Ultrasound Am J Emerg Med 28(2):213, February 2010

- 50 women
- Urban ED
- Pregnancy related complaint
- ≤ 16 weeks (mean 8.6 wks)
- 1 case, chlamydial infection would have been missed
- 0 cases: Pelvic examination changed management (compared to US)

Packing? Antibiotics?

ROUTINE PACKING OF SIMPLE CUTANEOUS ABSCESES IS PAINFUL AND PROBABLY UNNECESSARY O'Malley, G.F., et al, Acad Emerg Med 16(5):470, May 2009

48 Pts 60% MRSA

ARE ANTIBIOTICS NECESSARY AFTER INCISION AND DRAINAGE OF A CUTANEOUS ABSCESS? Hankin, A., et al, Ann Emerg Med 50(1):49, July 2007

2 trials in 1970s and 1980s, 2006 (52% MRSA)

2 prospective studies, 1 retrospective 441 pts 64 % MRSA

ROMICATT-II Udo Hoffman, NEJM July 2012

- 1000 ED Pts
- Age 40-74 yrs
- Low and Intermediate Risk
- ECG (non-ischemic) + 1 neg troponin
- Primary endpoint: LOS
- Inclusion: Gestalt
- 8%
- 47% v. 12%
- \$4,289 v. \$4,060

Hyperbarics

Annane D. Hyperbaric oxygen therapy for acute domestic carbon monoxide poisoning: two randomized controlled trials. *Intensive Care Med.* 2011 Mar;37(3):486-92.

- 179: Non Comatose; 6 hrs norm v. 4+1
 - Complete recovery: 61% v. 58%
- 206: Comatose; 4+1 v. 4+2
 - Complete recovery: 68% v. 47%
 - Persistent Neuro: 5% v. 21%

Xopenex vs. Albuterol

- High-dose continuous nebulized levalbuterol for pediatric status asthmaticus: a randomized trial. *J Pediatr.* 2009 Aug;155(2):205-10.e1. Epub 2009 May 21.
- 81 Pts
- 6-18 yrs with Asthma Exacerbations
- Failed ED management with albuterol and steroids
- Tx: Continuous aerosols: Albuterol vs. Xopenex
- HR, K+, Duration of Tx: Equivalent

Tagami T, et al. Implementation of the Fifth Link of the Chain of Survival Concept for Out-of-Hospital Cardiac Arrest. *Circulation.* 2012 Jul 31;126(5):589-97.

- 5th link: Post-resuscitative care centers of excellence
- May Be an Independent Predictor of Outcome
 - Hemodynamic Management
 - Respiratory Management
 - Therapeutic Hypothermia
 - PCI
- Favorable Neuro Outcomes: 0.5% to 3%
- OR: Bystander CPR 3.1; Early Defib 14.7; Early ALS 1.0; 5th Link 7.8

Haneya A, et al. A 5-year experience with cardiopulmonary resuscitation using extracorporeal life support in non-postcardiotomy patients with cardiac arrest. *Resuscitation* - 23 July 2012 (10.1016/j.resuscitation.2012.07.009)

- 5 yrs: Retrospective Review
- 85 Consecutive Cardiac Arrest Pts
- Tx with ECLS
- Mean Duration of CPR: 40 min (20-70)
- Duration of ECLS: 49 hrs (12-92)
- 40 Pts Successfully Weaned
- 29 Pts (34%) Survived to Discharge
 - 93% without severe neurological deficit
- IHCA v. OHCA Survival: 42% v. 15%

Quadiri Timour, et al. Sudden death of cardiac origin and psychotropic drugs. *Frontiers in Pharmacology*; May 2012 Volume 3 Article 76

- Mort Rate: 2-5 times higher
 - Partly linked to psychotropic drugs
- Life Expectancy: 20% shorter
- May induce coronary spasm, thrombosis and AMI
 - 17-fold increase risk of fatal AMI
- Schizophrenics at greatest risk – 79% increased risk for CAD
- QT Prolongation is common

CO₂/Bicarb

- AG
- CO₂
- Lactate

*Wira, C, Rivers, E, Donnino, M, et al Surrogate markers for lactic acidosis in patients with severe sepsis and septic shock [abstract]. Crit Care Med 2004;32
22.2% v. 25% for 4.0-6.9 mmol/L*

Asha, S., et al. COMPARISON OF RADIATION EXPOSURE OF TRAUMA PATIENTS FROM DIAGNOSTIC RADIOLOGY PROCEDURES BEFORE AND AFTER THE INTRODUCTION OF A PANSCAN PROTOCOL *Emerg Med Australasia* 24(1):43, February 2012

- Cancer risk estimated: 1 in 1,000
 - 20mSv
- Implementation of a pan scan protocol
 - 12% v. 20%
 - Missed injuries: 6 v. 4 (none required tx)
- No benefit
- OR for exposure: 2.2

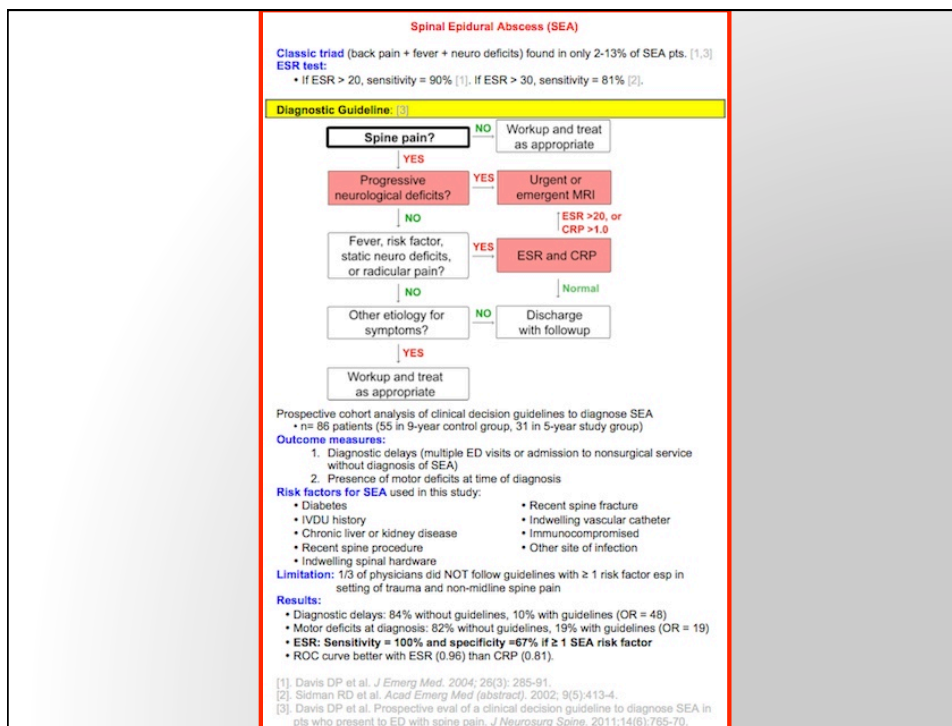
Wiener, R.S., et al. TIME TRENDS IN PULMONARY EMBOLISM IN THE UNITED STATES: EVIDENCE OF OVERDIAGNOSIS, Arch Intern Med 171(9):831, May 9, 2011

- Introduction of CTPA 1998
- Incidence, Mortality, Complications
 - 1993-2006
- 1993-1998: No change in incidence
 - 58.8-62.3 per 100,000 adults
- 81 % increase after (112.3 per 100,000)
- 8% decrease in mortality v. 3%
- PE case fatality rate decrease: 8% v. 36%
- Change in anticoagulation complications
 - 0 v. 71%

Davis DP. Prospective evaluation of a clinical decision guideline to diagnose spinal epidural abscess in patients who present to the emergency department with spine pain.

J Neurosurg Spine. 2011 Jun;14(6):765-70. Epub 2011 Mar 18.

- Risk factor assessment
- ESR v. CRP
 - ESR outperformed CRP: 100%/67%
- Imaging
- Control period v. Study period
 - Delays 83.6% v. 9.7%
 - Deficits 81.8% v. 19.4%



Stead, L.G., et al. An Assessment of The Incremental Value of The ABCD2 Score In The Emergency Department Evaluation of Transient Ischemic Attack, *Ann Emerg Med* 57(1):46, January 2011.

- 637 TIA Pts
- ECG, CT, Labs and Carotid Doppler, Observation Unit
- ABCD2 Score
- 2.4% at 90 days
- 7 days: 1.1, % 0.3%, 2.7%
- 90 days: 2.1%, 2.1%, 3.6%

Perry, J.J., et al, PROSPECTIVE VALIDATION OF THE ABCD2 SCORE FOR PATIENTS IN THE EMERGENCY DEPARTMENT WITH TRANSIENT ISCHEMIC ATTACK. *Can Med Assoc J* 183(10):1137, July 12, 2011

Good

	Effect	Reference
Post myocardial infarction	Heart rate	Prog Cardiovasc Dis 1990;144:373-375
	Stroke volume	Lancet. 1964;2(7264):825-832
	Cardiac output	Br Heart J. 1965;27:401-407
	Systemic vascular resistance	Br Med J. 1958;4(5627):360-364
	Mean arterial pressure	
	Increased	
Acute myocardial infarction	Vascular resistance	J Appl Physiol 2007;102(5):2040-2045
Cardiac catheterization	Coronary vascular resistance	Am J Physiol. 2005;288(1):H1057-H1062
	Coronary blood flow	
	Decreased	
Congestive heart failure	Stroke volume	J Am Coll Cardiol. 1996;27(2):353-357
	Heart rate	Am J Physiol Heart Circ Physiol. 2002;282(6):H2414-2421
	Cardiac output	Chest. 2001;120(2):467-473
	Systemic vascular resistance	Heart. 2010;94(7):533-538
	LV end diastolic pressure	
	Increased	
	Isovolumetric relaxation time	
	Increased	
COPD	Hypercapnia	Clin Med 2002;2(5):449-451
	Mortality	BMJ. 2010;341:c5462
Stroke	Stroke severity score	Stroke. 2003;34(2):1571-574
	Mortality	Stroke. 1999;30(10):2033-2037
Cardiopulmonary resuscitation	Neuro-specific enolase	Resuscitation 2006;69(2):199-206
	Increased	

Abbreviations: COPD, chronic obstructive pulmonary disease; *trial was terminated (Clinical trial off-site Oxygen)

ARCH INTERN MED

Acute Myocardial Ischemia
LAD Vasc Resistance
Coronary Vasc Resistance
Coronary Blood Flow

COPD
Hypercapnea
Mortality

Stroke
Stroke Severity Score
Mortality

Bell's Palsy Management

- Steroids: Within 48 Hours of Sx Onset
Sheikh S, Jacobus C; Are steroids effective for treating Bell's palsy? Ann Emerg Med. 2012 Jan; 59(1):33-4.
- Antivirals: 40% > likelihood for recovery at 3 months. Not Statistically Significant
Numthavaj P, et al; Corticosteroid and antiviral therapy for Bell's palsy: A network meta-analysis. BMC Neurol; 2011, 11:1.

Yeilding RH, O'Day DM, Li C, Alexander PT, Mawn LA.
Periorbital infections after Dermabond closure of traumatic lacerations in three children. J AAPOS. 2012 Apr;16(2):168-72.

- Meta-analysis
 - 1.8%: *Dermabond*
 - 0.3%: Traditional
 - OR 6.0

MANAGEMENT OF PEDIATRIC CHEST PAIN USING A
STANDARDIZED ASSESSMENT AND MANAGEMENT PLAN
Friedman, K.G., et al, Pediatrics 128(2):239, August 2011

- 406 children
- 7-21 yrs
- Division of Pediatric Cardiology
- 5 Pts 1%

Sert A, et al. Clinical characteristics and causes of chest pain in 380 children referred to a paediatric cardiology unit.

Cardiol Young. 2012 Jul 5:1-7.

- CP is a common presenting complaint
- 380 children
- DX
 - Musculoskeletal 37.1%
 - Idiopathic 29.2%
 - Cardiac 0.3% (1 child)
- Cardiac cause very rare
- H&P and perhaps, ECG and Echo in a select few

DO COUGH SUPPRESSANTS OR HONEY HELP PEDIATRIC COUGH? Allan, G.M., et al, Can Fam Phys 57:435, April 2011

- **In one RCT involving use of honey, 105 children aged 2-17 (mean, 5 years) were randomized to a single nighttime dose of honey, dextromethorphan or no treatment.**
- **Dextromethorphan was statistically superior to no treatment, and honey was statistically superior to dextromethorphan**

THANK YOU