



The Magazine of the Georgia College of Emergency Physicians

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# George R. Malcom Jr., MD, FACEP

Recipiant of the Longevity Award from the American College of Emergency Physicians

In this issue:

- Proving Our Value
- Brugada Visits Augusta
- Lessons from Vegas: Don't Get Fooled by Average Returns

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# Table of Contents

1	From the President Proving Our Value John J. Rogers, MD, FACEP	19
3	From the President Elect Matt Lyon, MD, FACEP	
5	From the GCEP Leadership	20
14	Emergency Medicine Residency Update: Georgia Regents University Stephen A. Shiver, MD, FACEP	26
15	Research Update: Emory Emergency Medicine Deb Houry, MD, MPH	28
18	Legal Court of Appeals Says Juries Can Decide Which Legal Standard of Proof Applies in Emergency Department Cases David A. Olson	

Clinical Lesion of the Buccal Mucosa Larry Mellick, MD, MS, FAAP, FACEP and Michael J. Allen, DO, MAJ, MC, FS

Clinical Pain Honeymoons and Testicular Torsion Larry Mellick, MD, MS, FAAP, FACEP

### EKG Brugada Visits Augusta Stephen A. Shiver, MD, FACEP

Risk Management The Tough Spot Issue -Dispositioning the Equivocal Patient Pete Steckl, MD, FACEP

### Medical Ethics

Financial

Safeguards for Choosing to Die Richard L. Elliott, MD, PhD

35

33

Lessons from Vegas: Don't Get Fooled by Average Returns Setu Mazumdar, MD, FACEP

### Note:

The co author, with Dr. Gordon, of the article titled "Ultrasound Guided Regional Anesthesia" in the summer edition of the EPIC should have been Matthew Steimle, DO, Pediatric Emergency Medicine Fellow, Emergency Ultrasound Fellow, Department of Emergency Medicine, Georgia Regents University. We apologize for the oversight.

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# From the President **Proving Our Value**

### John J. Rogers, MD, CPE, FACS, FACEP

Last May, at the ACEP Leadership and Advocacy Conference in Washington, DC, Dr. Art Kellerman presented the results of the RAND study. This report, entitled *The Evolving Role of Emergency Departments in the United States*, was released that morning. Its findings have given us the information necessary to begin to change the perception that the emergency department is a value and revenue generator, rather than a cost center.

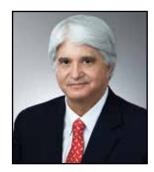
Though sponsored by Emergency Medicine Action Fund (EMAF) and ACEP, the RAND Corporation did their investigation and came to their conclusions independently and without any outside influence. EMAF and ACEP had no input into the findings and no knowledge of the content of the report until presented and released that day.

Legislators, regulators and others trust RAND to provide unbiased reports, untainted by the sponsoring organization. So in a sense, the report should be seen as the best information to date, rather than propaganda. That alone makes the report a very useful tool and one that gives credence to our argument that emergency medicine provides value that may have not been previously recognized or understood.

- A few of the significant findings from the report are these:
- Inpatient admissions are increasing, but at a rate less than the population.
- All increase in admissions is due to an increase in admissions from the ED.
- The emergency physician is the decision maker in half of all admissions.
- Inpatient admissions account for the bulk of the hospitals revenue.
- Inpatient expenses account for 31% of total health care costs.
- Emergency physicians support primary care by
  - Performing complex diagnostic workups
  - Providing overflow care
  - Afterhours and weekend coverage
- Most patients do not use the ED for convenience but because no viable alternative exists or their doctor sent them there
- Emergency physicians
  - Account for 4% of physicians
  - Provide 28% of all acute care
  - Provide 50% of acute care for Medicaid and CHIPS patients
  - Provide 2/3rds of acute care to the uninsured
  - 55% of ED care is uncompensated
- Emergency care only accounts for 2-4% of all healthcare spending
- Emergency physicians play an important role in preventing avoidable admissions

Today, the number one concern of policymakers is control of the growth in the total cost of healthcare. It is misguided to see the ED as a source of unnecessary expense without considering the true and total value that we deliver and can influence. The RAND Report will be an invaluable tool to educate policy makers so they may make informed and rationale decisions.

The Report may be found at: http://www.rand.org/content/dam/rand/pubs/research\_reports/RR200/RR280/RAND\_RR280.pdf



John J. Rogers, MD, FACEP jrogers@acep.org

Dr. Rogers is president of GCEP.

1

# From the GCEP leadership:

Your GCEP leadership has fought hard against PeachState Health Plan (a health insurance company for Georgia's Medicaid and Peach Care for Kids) to reverse its adverse reimbursement changes that were effective in 2013 regarding surgical services provided to their beneficiaries in the ED. After months of wrangling, and with the help of many emergency medicine allies, GCEP secured a proper resolution to this matter on October 12, 2013. You will soon be getting reimbursed by PSHP for your many improperly denied services. Your billing companies will be posting these corrections to your accounts soon after receiving them. It is estimated that the total amount that PSHP will reimburse Georgia EPs will be in the hundreds of thousands of dollars, in aggregate.

If you are interested, the details are as follows:

Last November, PeachState Health Plan published an Important Provider Notice (dated 11/19/2012) which stated that PSHP would change how it reimburses for split surgical services in the ED (site of service 23) in their hopes to incentivize other physicians to follow up on Medicaid beneficiaries who had surgical care in the ED (i.e., laceration repairs, I&D, FB removals, etc). The notice changed the reimbursement from 70% to 30% for the "surgical services only" (54 modifier); and from 30% to 70% for the "postoperative management" (55 modifier). Therefore, for emergency physicians who provide split surgical care (as noted by the modifier 54), the reimbursement would go from 70% of the fee schedule to 30%... a huge reduction. According to information online from Medicare, most minor surgeries are reimbursed by CMS at 10% of the physician fee schedule amount for the pre-op, 80% for the intra-op, and 10% for the post-op period. True split surgical care in the ED is an uncommon practice (defined as those surgical services with a 90-day global period); therefore, many emergency physicians reasonably decided to wait to see how this new fee schedule would affect their practices rather than immediately object to this Medicaid reimbursement change.

In January 2013, PeachState Health Plan improperly began to deny many ED-provided surgical services for which split care was not an issue. Some surgical services with a 0-day global period and all with a 10-day global period were being improperly denied because PSHP mistakenly concluded that a 54 modifier (surgical services only) was needed on these minor surgical procedures. Most of these surgical procedures are lacerations and other "simple" procedures for which no prolonged postoperative management is either scheduled or expected (hence the 0-day and 10-day global designation, as opposed to the 90-day global periods for major surgical procedures).

In spite of numerous appeals of this policy, PSHP continued to hold in denial status hundreds, if not thousands, of ED surgical services without appropriate resolution.

During the October discussions, GCEP requested that PSHP:

- 1. Immediately change their edits and start reimbursing emergency physicians for surgical services as coded.
- 2. Immediately cease reimbursing 10-day global surgical services (minor surgical services) as split services (requiring modifiers, separate follow-up and severely reducing the reimbursement for the major portion of the service).
- 3. Immediately cease improper denials of ED surgical services.
- 4. Immediately conduct a review of all denied surgical services in the ED since 1/1/2013 and reimburse emergency physicians appropriately and in conformity to national standards for these services without requiring them to resubmit for reimbursement.

With supporting pressure from the governor's office and our EM friends at the state level (Ms. Katie Rogers, Governor's Health Policy Advisor; Commissioner Brenda Fitzgerald MD, Department of Public Health; Dr. Pat O'Neal, Georgia Department of Human Resources; Mr. Jerry Dubberly, Director of Medicaid for Georgia), PSHP agreed to all of GCEP's requests and agreed to reconcile by way of appropriate reimbursement all improperly denied ED surgical services within 30 days.

Sometimes, things work out!

# From the President Elect

### Matt Lyon, MD, FACEP

s I take over the roll of President Elect for GCEP, I look back over the last two years as Secretary/ Treasurer. It was an exciting time for me. We have a number of accomplishments to our credit. GCEP expanded EPIC, the quarterly magazine mailed to all GCEP members. This publication has grown to be a dynamic and highly informative resource to our members. The GCEP conferences have also improved during this time period. The Medical Directors Forum is growing into a large conference attracting national speakers as well as state politicians and administrators. This conference allows for discussion between the GCEP members and those who can affect our practice at the state level. Our other major educational conference has also undergone a big transformation. After much planning, the annual summer conference sponsored by GCEP was combined with the North Carolina and South Carolina chapters to create a regional conference entitled "Coastal Emergency Medicine Conference". This conference was held in Kiawah Island outside of Charleston, SC, in June. The attendance of this combined conference was nearly twice the size of the prior conference. We were able to attract national speakers and this conference was very well received. Planning is now underway for the 2014 conference.

Our other educational activity, The Leadership and Medical Director forum, was traditionally held during the Georgia legislative session in the first couple of months of the year. When Dr. Rogers began looking at planning for his term, he charged me with improving the legislative activities of GCEP, including this conference. This is no easy task. We have begun making changes which will take 2 years to fully implement. First, instead of a Legislative Day event, we will host a "Legislative Week" at the Capital (February 17-21, 2014). During this week we plan to have an Emergency Physician paired with an Emergency Medicine resident or student provide medical care to the legislators and staff each day using the Doctor-of-the-Day program. This will give insight to the legislators as to what we do in our specialty. We also plan to have a booth at the capital during this week to educate legislators on key issues facing emergency physicians in the State of Georgia. Lastly, we will host a legislator reception on Thursday, February 20, 2014. This will promote a more personal discussion with the legislators. In the future, we plan to add a legislative and advocacy component to the Medical Directors Forum. Since the Medical Directors Forum occurs before the legislative session, this would allow for discussion of emergency medicine issues and priorities prior to the legislative session.

I am excited to be working for GCEP as President Elect. The Governmental Affairs Committee, of which I am Chair, is currently developing GCEP legislative and issue priorities for the next couple of years. If there is a priority, concern, or a "white hat" issue you think that GCEP should be aware of, please contact me or one of the committee members.

### The Governmental Affairs Committee members:

Drs. Matt Lyon - Chair Elizabeth Davalantes Mark Griffiths Mike Hagues Sanford Hawkins Brian Kornblatt Jason Lowe Ed Malcolm Henry Siegelson Jay Smith



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Dr. Lyon is Associate Professor of Emergency Medicine at the Medical College of Georgia. He serves as the director of the Section of Emergency and Clinical Ultrasound as well as the director of the Emergency Department Observation Unit. He has significant educational experience, lecturing both nationally and internationally, and has published over 30 peerreviewed articles on the use of ultrasound in clinical practice.

### Stephen Shiver, MD, FACEP sshiver@gru.edu

Dr. Shiver is Associate Professor of Emergency Medicine and Residency Program Director at the Medical College of Georgia. Clinical and research interests include resident education, emergency ultrasound, airway, and trauma. In addition to his emergency medicine training, he completed a general surgery residency at Wake Forest University Baptist Medical Center and is board certified by the American Board of Surgery.



# **Emergency Medicine Residency Update: Georgia Regents University**

### Stephen A. Shiver, MD, FACEP, Residency Program Director

ach year we make an attempt to send as many of our seniors as ⊿possible to a major EM national conference. Last year the seniors chose to attend Essentials of Emergency Medicine in Las Vegas, NV, but this year the choice was once again the ACEP Scientific Assembly in Seattle, WA. The annual pilgrimage provides a great opportunity for team building, comradery, and hopefully a little education as well. This year's ACEP meeting also provided an opportunity for faculty to catch up with a number of GRU residency alumni. Jed Ballard (Washington), Shawn Wilson (Washington), Mike Shaw (Mississippi), and Susan Haney (Oregon) were all present in Seattle this year. It is also exciting and noteworthy to see alumni assuming positions of leadership within the specialty; Dr. Haney served as one of the Councillors this year. If you would like to have the opportunity to connect with faculty and fellow alumni, the GCEP cocktail reception is an excellent venue in which to do so. The reception is held annually at the Scientific Assembly and both the Emory and GRU residencies are well represented at the event; specifics regarding location, time, etc., may be found at the GCEP website.

We would also like to encourage alumni to strongly consider attending the Coastal Emergency Conference jointly sponsored by GCEP, NCCEP, and SCCEP. GCEP has previously hosted its own conference, but last year Georgia, North Carolina, and South Carolina decided to join forces to create a larger meeting. The 2nd annual meeting will occur in June 2014 and will be held at Kiawah Island, SC. Numerous alumni and former faculty have attended the meeting including Brian Leal, Carl Menckhoff, Patrick McDougal, Mike Shaw, and John Allen. In addition to the fellowship, the conference has some excellent lecture offerings and provides an opportunity to obtain needed CME credits.

Interview season is now in full swing and Emergency Medicine continues to be a very popular choice among U.S. medical students. 850 plus applications to our program have been received thus far via ERAS, easily eclipsing our prior record. The civilian interview dates will begin in November and end in January. The Army interview season is now wrapped up and all indications point toward another outstanding military match for us. Of note, we are now taking 6 residents per year (or 50% of our ACGME approved 12 positions per year) from the Army side. The relationship began in 2008 with a single resident, has grown over time, and is providing substantial benefit both to the Army and GRU.

If you graduated more than a few years ago, you would be shocked to see just how much our residency program has changed. Our ED now has 60 beds, volume has reached 90,000, and we operate in 3 distinct pods: A, D, and Pediatric. The sounds of construction are ever present as the Pediatric ED is in the midst of a complete renovation. Paper is increasingly scarce in the ED as we have completely transitioned to the electronic medical record. We now rotate at 3 distinct hospitals (GRMC, DDEAMC, Trinity) and are actively exploring educational opportunities at other venues. Weekly conference is now 4 hours with the 5th hour being asynchronous learning. Change is, indeed, everywhere. Even our name has changed! The bottom line, however, is that our residency is stronger than ever as evidenced by the quality of the residents, In-Training Examination scores, ABEM board performance, and job performance post graduation.

With an increasingly diverse group of civilian and Army residents, the geographic footprint of our now 20 plus year old residency program continues to expand. We currently have a growing number of residents practicing all over the United States (including Hawaii!) and internationally as well. Stay connected with your alma mater via the department website, social media including Facebook, and by getting together at national conferences. We welcome any questions or comments you may have concerning our program. Janelle Davis, our Program Coordinator, may be reached at (706) 721-2613 or via email at redavis@gru.edu.

# Research Update: Emory Emergency Medicine

### Deb Houry, MD, MPH

ur Department of Emergency Medicine has had a tremendous year in research and we are currently the #1 NIH funded emergency department nationally. We are one of 14 SAEM approved research fellowships and our faculty research interests cover a wide spectrum including traumatic brain injury (TBI), public health issues, and cardiac arrest.

The Brain Lab led by Don Stein, PhD has been focusing on. They are making excellent progress and by fall should have enough data to apply for NIH clinical trial funding to test progesterone in stroke. Our latest results show that progesterone reduces the substantial risk of bleeding when the clot-buster tPA is used, can be used with a smaller tPA dose, and extends tPA's window of treatment. This is an important finding because only 3-5% of stroke patients get to the hospital in time to be given tPA---if given later it can cause bleeding into the brain. Another set of Brain Lab projects shows that progesterone can reduce the risk of post-stroke systemic infection and sepsis, a co-morbidity seen in about 30% of stroke patients, with often devastating consequences. We now think that some of progesterone's benefits come from its multiple beneficial systemic effects on inflammation and infection. The most novel project ongoing in the lab is perhaps the glioblastoma work. The lab has replicated their findings multiple times and now has solid data showing that very high-dose progesterone slows tumor progression substantially and kills more tumor cells than the current chemotherapeutic treatment, temozolamide. Notably, the lab was awarded a use patent for the treatment of neuroblastoma and are currently revising their patent application on glioblastoma for the US Patent Office.

The division of Emergency Neuroscience (EN) has had a great year with the successful 5 year renewal of the Neurological Emergencies Treatment Trials Network Southeastern Hub designation and support from NIH. The EN also graduated its first Emergency Neuroscience Research Fellow, Dr. Tamara Espinoza, one of Grady's Clinician Hero's and recipient of a 3 million dollar DOD grant within 2 weeks of completing her fellowship. She is studying novel technologies for the detection concussions in sports and military settings. We welcome our new Fellow, Dr. Anika Backster. Dr. Backster is studying factors that improve the outcome of patients with acute stroke. The EN is participating in multiple national clinical trials, including the POINT, SHINE, I-SPOT, BIO-ProTECT and ProTECT IIIThe EN continues to direct the ProTECT III, progesterone for traumatic brain injury phase III multicenter clinical trial. The study has enrolled 803 subjects nationally and is on target for enrolling 1140 subjects by the end of next year. If positive, this study would be the first to identify a treatment for TBI, a disorder that afflicts more than 3.8 million Americans annually.

The medical toxicology section was also very productive in the past year, publishing at least eight articles, three editorials, and three letters. In addition, 12 abstracts were presented as posters at the annual scientific meetings of the American Academy of Clinical Toxicologists and American College of Medical Toxicology. The section also contributed to two reports in the Centers for Disease Control and Prevention's Morbidity and Mortality Weekly Report. The projects covered a wide range of topics including a randomized controlled trial of multi-dose activated charcoal in patients with phenytoin toxicity, an investigation of cases of renal failure associated with synthetic marijuana use, a literature review of cobalt toxicity associated with metal-on-metal prosthetic hip implants, and a report of health hazards associated with laundry pod exposures.

The Emory Observation Medicine Research team (Mike Ross, Anwar Osborne, and Matt Wheatley) have been very productive. They have an observation medicine fellow (Dan Wood), three administration fellows (Andrew Pendley, Sean Lowe, Karim Ali) and are continuing to implement a formal observation medicine longitudinal



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5

curriculum into our emergency medicine residency. Publications this year include studies showing favorable resource utilization and re-admission rates for heart failure observation unit patients, a national survey characterizing observation units in Chest Pain Centers, a comprehensive protocol for acute coronary syndrome patients, validation of rapid ECG criteria for patients with STEMI, and a state of the art review of ED observation units.

Abigail Hankin and Leon Haley have been busy leading the Georgia BASICS programscreening, brief intervention, and referral program for substance abuse in the emergency department. They have one accepted/published manuscript about ED-based screening for substance use disorders, presented at Georgia Public Health Association, and submitted a SAMHSA grant to expand this work. Further, Dr. Abigail Hankin and Bijal Shah obtained a grant from Gilead to support wide-scale screening and linkage to care for HIV in the Grady Emergency Department and Primary Care Centers, with a goal of 20,000 patients screened over 12 months.

The emergency ultrasound faculty have also been very productive in scholarship over the past year. Most recently, Emory was recognized for having the highest enrollment for the AHRQ grant entitled STONE and we have just completed our work on this exciting project. And, Dr. McNally continues to lead and expand the successful CARES registry. In 2012, CARES collected 28,404 cases; 25116 were of presumed cardiac arrest etiology. To date in 2013, 129 agencies and the state of Utah have joined the registry. The program has grown to encompass more than 400 EMS agencies and 900 hospitals covering 25 states with 10 state based registries. Participation in CARES represents a population base of almost 65 million in the US. As of July 2013, the CARES registry consisted of approximately 100,000 records.

Jeremy Hess has been pursuing two main lines of research: in his environmental health work he explores the health impacts of extreme weather events and ways to increase public health preparedness for extreme weather and climate change, and in his operations research he examines complex system dynamics in emergency care delivery. He is currently working on a project to identify best types of forecasting and early warning systems for reducing extreme heat exposure among residents of Ahmedabad, India's sixth largest city. Domestically, Dr. Hess works with the Centers for Disease Control and Prevention's (CDC's) Climate and Health Program to facilitate public health preparedness for climate change at the state level, and in the last year has completed a national-level analysis of emergency department (ED) visits for heat illness. In his operations work, Dr. Hess recently completed a systematic review of the literature on systems science and EM and an analysis of the impact of scribes on productivity, teaching, and provider satisfaction at Emory. In addition, he was recently awarded a grant by the Emory Medical Care Foundation to explore hospital-level and regional dynamics in patient flow from the ED to other areas of Grady Memorial Hospital.

Finally, we've had another extremely productive year for the Emory Center for Injury Control, one of 11 CDC funded Injury Control Research Centers. We've continued to have 50+ people at our quarterly meetings and great attendance at all of our brown bag lectures and other events. We are pursuing new areas such as our social media lecture series, Public Voices Fellowship (Drs. Houry, Heron, and Stephenson have now published 14 op-eds), and a University wide course on Violence that featured Salman Rushdie as a guest speaker. We also funded 4 pilot projects on a range of topics including older drivers, concussion legislation, and child maltreatment. We provided 3 summer student scholarships to work on a variety of unintentional and intentional injury research projects. We published many of our center's research projects in the August 2012 special Emory Center for Injury Control issue of Western Journal of Emergency Medicineour 4th special issue. These issues have had 15,000 downloads to date. And, we are in the midst of working on our renewal application due this fall - fingers crossed!

# Court of Appeals Says Juries Can Decide Which Legal Standard of Proof Applies in Emergency Department Cases

### David A, Olson, Esq., Drew Eckl Farnham

The reader may recall this author's article in late 2012 discussing a \$5,000,000 jury verdict for misdiagnosis in a Gwinnett County case, <u>Wadsworth v. Howland</u>. The case was appealed, and the panel on the Court of Appeals held that a jury is allowed to decide what standard of proof applies in an emergency department case. According to the plaintiff's lawyer, the case simply confirms what plaintiff's lawyers have been arguing for years. Whether a patient received emergency care or is stable is a jury question.

For background, the Gwinnett case, <u>Wadsworth v. Howland</u>, involved a misdiagnosis of a woman's severe leg pain by a physician's assistant as a skin rash. The physician's assistant sent the woman home

from the emergency department without performing further ultrasound testing to detect a blockage in her arteries. The plaintiff's incident occurred when she awoke at home in pain. Plaintiff arrived at the emergency department by ambulance, and she rated the pain in her feet at 8 out

of 10 to the triage nurse. A physician's assistant ruled out vein problems with an ultrasound, and eliminated acute arterial problems because the physician's assistant found a weak pulse in plaintiff's foot, which was cold to the touch. The physician's assistant did not order an arterial ultrasound, discharged plaintiff with a diagnosis of cellulitis, and prescribed plaintiff pain medications and antibiotics. The supervising physician never examined plaintiff. Later that day, plaintiff returned to the hospital by

ambulance after a relative found her at home unresponsive. A blockage was found, and a few days later, physicians amputated both of plaintiff's legs below the knees. A physician's report, after diagnosis of a blockage, indicated the presence of faint pulses on the top of plaintiff's right foot and the back of plaintiff's right ankle.

Georgia law states that "[i]n an action involving a health care liability claim arising out of the provision of emergency medical care in a hospital emergency department... no physician or health care provider shall be held liable unless it is proven by <u>clear</u> <u>and convincing evidence</u> that the physician or health care provider's <u>actions showed</u> <u>gross negligence</u>. O.C.G.A. § 51-1-29.5 (c) (emphasis added). However, the same statute defines "emergency medical care," but specifically excludes some medical care or

treatment: "'Emergency medical care' means bona fide emergency services provided after the onset of a medical or traumatic condition manifesting itself by acute symptoms of sufficient severity, including severe pain, such that the absence of immediate medical attention could reasonably be expected to result in placing the patient's health in serious jeopardy, serious

impairment to bodily functions, or serious dysfunction of any bodily organ or part. The term does not include medical care or treatment that occurs after the patient is stabilized and is capable of receiving medical treatment as a nonemergency patient or care that is unrelated to the original medical emergency." O.C.G.A. § 51-1-29.5 (a)(5) (emphasis added).

The trial judge in <u>Wadsworth</u> instructed the jury on both the gross and ordinary



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negligence standard and allowed the jury to decide which standard applied. The judge also gave the jury the statutory definition of "emergency medical care" and told the jurors their decision on whether plaintiff's claims involved the provision of emergency medical care would determine which standard of care and burden of proof they should apply.

The defense argued that the higher standard of proof should apply as the plaintiff received emergency medical care, and thus the jury would be required to find defendants liable for gross negligence. However, plaintiff's counsel argued that the exception contained in O.C.G.A. § 51-1-29.5 (a)(5) should apply which would allow the jury to utilize the lower standard of proof to find that defendants were liable for ordinary negligence. Ultimately, the judge decided to let the jury decide whether the defendants were liable of gross negligence by clear and convincing evidence or of ordinary negligence by a preponderance of the evidence. With that door open, plaintiff's counsel convinced the jury that the lower standard of proof should apply to plaintiff because of the exclusion for non-urgent, stable patients. That lower standard applied to the care provided in that emergency department led to the \$5,000,000 verdict.

The Supreme Court of Georgia is currently assessing when to apply a heightened negligence standard in medical malpractice cases against emergency room personnel. Unless the Supreme Court decides differently, this Court of Appeals decision allows a jury to interpret the statutory definition of emergency medical care and decide whether or not a patient had become stabilized and thus was capable of receiving treatment as a nonemergency patient. After assessing that definition, the jury then must decide which standard applies, gross or ordinary negligence. Ultimately, this case stands for the proposition that it is not a legal interpretation of a statute, but rather a fact question for a jury when assessing whether a patient received emergency medical care pursuant to a statutory definition. Inconsistent application and interpretation by juries is expected which will lead to further appeals until the issue is either clarified legally or declared that juries will always be allowed to decide which standard applies.

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# Lesion of the Buccal Mucosa

### Larry B. Mellick, MD, MS, FAAP, FACEP and Michael J. Allen, DO, MAJ, MC, FS

### Case

A 5 year old female presented to the emergency department for evaluation of a painful oral lesion and a red indurated area on her left cheek. Her parents reported that on the evening prior to arrival she had inadvertently bitten the inside of her cheek. An irregular, aphthous-like lesion of the buccal mucosa was noted as well as a 3-4 cm minimally indurated area of erythema on the skin of the cheek overlying the buccal mucosa lesion.

### Diagnosis

Post-Traumatic Fat Necrosis. Consultation with dermatology confirmed the diagnosis of post-traumatic fat necrosis. The erythema of the skin overlying the lesion was considered reactive change associated with the buccal fat necrosis. That patient was treated with dexamethasone elixir applied topically to the buccal lesion three times a day for 5 days. At follow up with dermatology four days later marked improvement was noted.

### Discussion

Post traumatic fat necrosis can occur as a result of localized tissue trauma. The cheek is the most common site of involvement for children and the breasts, buttocks, and extremities are more common sites of involvement for adults.<sup>1,2</sup> This condition frequently presents with a painful indurated lump in the skin at the site of the lesion

Figure 1: An aphthous-like lesion of the buccal mucosa following local trauma

associated with warmth and erythema of the overlying skin. The diagnosis is often difficult to make clinically and it is commonly misdiagnosed as an infection or cellulitis.<sup>1</sup> Definitive diagnosis can be made by punch biopsy; however, advanced imaging such as magnetic resonance imaging (MRI) may be used as a less invasive way to help differentiate fat necrosis from other soft tissue tumors such as lymphoma, sarcoma, and liposarcoma.<sup>3,4,5</sup> Post traumatic fat necrosis is a self-limited process that doesn't require additional treatment beyond symptomatic pain control. <sup>1,2,3</sup>

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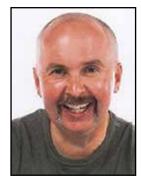
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**Figure 2:** An irregular, erythematous, indurated lesion of the cheek overlying the buccal mucosal lesion.



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## CLINICAL



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# Pain Honeymoons and Testicular Torsion

### Larry B. Mellick, MD, MS, FAAP, FACEP and Adrian Amin, MD

### Introduction

Testicular torsion pain is notorious for being immediately severe and rapid in onset. In fact, nausea and vomiting often accompanies the pain and testicular torsion patients tend to seek medical care earlier because of the pain severity. However, it appears that for some patients the scrotal pain markedly decreases in the hours that follow. In fact, these patients are able to carry on their activities of daily living and sleep through the night with apparently minimal pain or need for pain medications. Within days, however, the dying testicle becomes markedly swollen and the level of pain again increases. At that time the scrotal pain is again severe and causes the patient to return for follow-up. Typically the patient presents walking with a broad-based, painful gait.

I have reviewed a number of testicular torsion cases that have gone to litigation and the pattern of a pain honeymoon after the initial onset of excruciating pain is described. In fact, the patient may have several days of relatively normal activity, full nights of sleep, etc. before the testicle becomes markedly swollen and the pain level again increases. Postulations of intermittent torsion are proffered, but the presentation of a now visibly enlarged, swollen and necrotic testicle is the unavoidable elephant in the room. It simply is not fathomable that the swollen, necrotic testicle found at orchiectomy often surrounded by hydroceles is the result of a recent recurrent torsion. Those findings are most consistent with the natural outcome over time of prolonged absent blood flow to the testicle.

Recently, however, an adolescent patient with a relatively painless testicular torsion presented for my evaluation. When I first saw the patient the testicle had been torsed 720 degrees for approximately eleven hours. On repeated questioning, the patient and his mother denied taking any pain medications. Nevertheless, unless the testicle was palpated his pain was reportedly minimal. This patient confirmed for me my suspicions that a pain honeymoon sometimes occurs in testicular torsion presentations.

### Case

A 15 year old African American male was awakened by severe scrotal pain at 2 A.M. After the onset of pain he vomited once. Later that morning he went to his local emergency department where a color Doppler ultrasound of the scrotum was obtained. The imaging study showed absent or decreased blood flow to the right testicle. He was transferred to our medical center for a pediatric urology referral. Approximately 11 hours after onset of the pain he was first seen in our emergency department. His pain had improved during the day and in our pediatric emergency department he reported pain levels ranging as high as high as 4/10 to more consistently 1/10. In fact, the pediatric urology note reported "only tenderness to palpation and no resting pain". In the emergency department the patient smiled and laughed at times and was in no acute distress. On examination of the scrotum a transverse lie was noted and the testicle was distinctly firm and clearly more swollen and tender to palpation in comparison to the left testicle. Additionally, the tender epididymis seemed to be disproportionately enlarged and swollen. Sexual intercourse or any urinary tract infections were denied. He did report intermittent episodes of testicle pain of short duration during the previous six months and a similar painful episode 1 week earlier. At that time he sought medical care and was treated with doxycycline for a suspected sexually transmitted disease. His past surgical history was notable for bilateral inguinal hernia repair at six months of age. Because there were limited ultrasound images and the patient's pain had

improved a repeat color Dopper ultrasound was obtained. Absent blood flow was again documented. The patient was subsequently taken to the operating room and the testicle was found to be torsed 720 degrees in a clockwise direction. After intraoperative detorison the testicle immediately regained blood flow, and an orchiopexy was accomplished for both testicles. Even though the testicle was salvaged, at the time of this report long term follow-up has not yet been accomplished.

### Discussion

While the absence of pain in testicular torsion has been previously described, a review of the literature failed to produce any previous reports of a pain honeymoon. Murphy et al reported that two patients in their series presented entirely pain free except on examination they had a tender testicle.<sup>1</sup> Mäkelä et al noted that "absence of pain does not exclude the possibility of SCT (spermatic cord torsion) in a swollen scrotum."2 In his 18 year retrospective study scrotal pain was documented in only 88% of boys more than one year of age. His report, however, does not clearly address whether or not the torsed testicles were painful on palpation as noted in our patient and reported in other studies.<sup>3</sup> Also relevant is that absence of pain has been described in female patients with documented ovarian torsion.<sup>4,5</sup> Another reason that a patient with testicular torsion may not complain of scrotal pain is that some patients report only abdominal pain or inguinal pain.<sup>2,6,7,8</sup> This confounding pain referral pattern has proven to be a medical-legal tripwire for emergency medicine physicians.

In summary, the onset of ischemia after torsion results in excruciating pain. Consequently, an earlier visit to the emergency department is more common with testicular torsion as compared to other causes of scrotal pain.<sup>2,9</sup> However, for some patients after the onset of excruciating pain there appears to be a honeymoon period of decreased pain. Innervation to the testicles follows the spermatic cord. Consequently, a spermatic cord block will successfully anesthetize the testicles. The best explanation for this observed decreased pain in the ischemic testicle is that innervation to the testicle is also compromised as the spermatic cord twists. A YouTube video of the patient described in this report is available for viewing.<sup>10</sup>

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# EKG



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# Brugada Visits Augusta

### Stephen A. Shiver, MD, FACEP

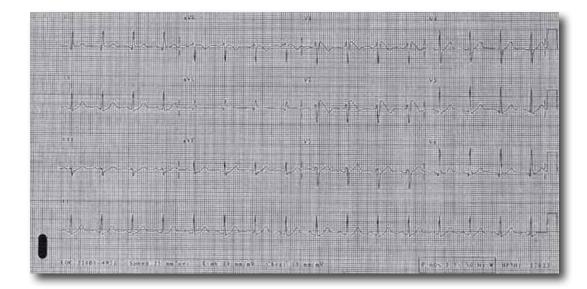
A 4O year-old male presents to your ED with his wife for evaluation of syncope. He is in good health, exercises regularly, and takes no medications. He has no history of cardiovascular disease whatsoever. There was no prodrome and the event occurred while watching TV. He currently is without complaint and would not have come in for evaluation if it were not for an "overly concerned wife." The EKG obtained at triage is shown.

### **Discussion**:

The pictured EKG is a classic example of Brugada Syndrome. The EKG hallmarks of the condition include an incomplete or complete right bundle branch block and ST elevation in the right-sided precordial leads. The ST elevation comes in 2 different morphologies: coved and saddle-type. The pictured EKG nicely demonstrates the coved pattern, with downsloping, upwardly convex, ST elevation (noted in leads V1-2). The saddle type pattern consists of ST elevation in a similar lead distribution, but it has a concave upward appearance.

In the spirit of full disclosure, the above patient did not present to our ED with syncope. He is, however, a patient in the MCG system with known Brugada Syndrome. The syndrome is familial with an autosomal dominant inheritance pattern and the underlying pathophysiology is thought to be due to a mutation in a cardiac sodium channel gene. The disease is much more common in men and population studies have shown it to be more common in individuals with Asian descent.

Why is it important? ED physicians must recognize EKG's suggestive of Brugada Syndrome because left untreated it has a significant association with sudden cardiac death due to ventricular tachyarrhythmias. When found, the condition can be effectively treated with an implantable cardioverter defibrillator. The EKG is critically important in the evaluation of all syncope patients. Make sure Brugada Syndrome is on the list of things you are on the look out for when analyzing the syncope patient's EKG.



**Example of Brugada Syndrome** 





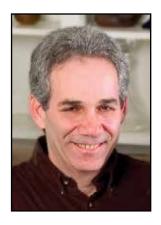
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# **RISK MANAGEMENT**



Peter Steckl, MD, FACEP esquitero@gmail.com

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# The Tough Spot Issue – Dispositioning the Equivocal Patient

### Pete Steckl, MD, FACEP

Disposition decisions are, in most cases, a logical and predictable exercise. We interview and examine the patient, develop our impressions, initiate a diagnostic plan and finally arrange disposition. Frequently we exit the patient room after initial evaluation knowing final disposition. To our chagrin, we often must wait for supportive clinical studies to corroborate our ideas and facilitate our plans. In most cases our intuition is correct, returning studies are supportive and everything flows smoothly. However, occasionally we encounter a case that doesn't follow the rules; the clear-cut presentation of appendicitis returns with a normal CT and labs; work-up of the sick looking child returns with normal labs and lumbar puncture and she doesn't perk up with IV fluids. In a perfect world, the humble and reasonable consultant would then agree to admit the patient for observation or, better yet, come immediately to the bedside for contemporaneous consultation.

Well, this is not a perfect world, we certainly are not perfect and neither are our consultants. We inevitably meet resistance when trying to "sell" these patients with no objective diagnostic evidence of serious illness aside from our gestalt. This can leave us in the position to make some difficult choices. Taking the path of least resistance by following consultant advice to "just send the patient home" is clearly the most expedient but doesn't set well with our conscience or our risk profiles. Alternatively, we may elect to move up the chain of command to chiefs of departments, etc. in defense of the patient. This can be effective but requires expenditure of a lot of personal capital, is time consuming, and doesn't win you any popularity contests amongst your consultant colleagues. Though required of us at times, it is a path that should be embarked upon relatively rarely. Thus, what are we to do in cases that are sort of in-between?

The ones that are sort of nebulous with potentially real risk but may well result in a benign outcome.

The honest answer can vary with the circumstances. These cases just don't fit neatly into the emergency medicine paradigm. They are the ones that require more than one single point on the curve. They are also the ones that, for unknown reasons, seem to show up on weekends or in the middle of the night when immediate or close followup with consultants is at best difficult and at worst impossible. Under such circumstances we must be a bit creative in crafting an out of the box plan to adeptly and safely care for the patient.

To be sure, an approach that includes observation and reevaluation is optimal. This, in most cases, should proceed in the department under the supervision of the ED physician. Though unwieldy from a patient flow perspective, it is at times the safest and sanest option. This strategy functions best in cases that promise to be dynamic, where there is potential for change in condition or situation. Typical cases would be the intoxicated patient who, by morning, should be a different person, the pediatric case with normal labs but looks mildly to moderately toxic, or the abdominal pain patient with normal ct scan but exam exhibiting peritoneal signs. Many times, just waiting until daytime allows some options that were not available at 2 am. These can be as simple as arranging immediate evaluation by the primary pediatrician in his office or urgent evaluation by the surgeon who will be in the hospital operating anyway the following morning.

On the other hand, observation may be accomplished through alternative means. An underused option for those in-between cases that are stable and arrive on Friday night with no hope of follow up until



### Monday may qualify for family observation at home with recheck in the ED 8-36 hours later. Though nurses may look at you askance, scheduled recheck in the ED is a perfectly reasonable option for such functions as repeat abdominal exams, vomiting infants, or borderline admittable cellulitis.

In conclusion, the effective physician must remain agile and flexible in his/her approach to difficult problems in the ED. We clearly do well with the sickest and wellest (sic?) of patients where actions and reactions are obvious. It is the in-between case that can test our skills and create liability problems. Maintaining an open dialogue with the patient, truthfully disclosing potential uncertainty in diagnosis, facilitating observation and ensuring follow-up can be our greatest tools in decreasing risk to our patients and ourselves.

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# Safeguards for Choosing to Die

Richard L. Elliott, MD, PhD, FAPA, Professor and Director of Medical Ethics and Professionalism, Mercer University School of Medicine

Tim Bowers was 32, married in August 2013, and his new wife was pregnant. On November 2 he went hunting, but fell 16 feet from tree stand. Vertebrae at C3, C4, and C5 were crushed - he was paralyzed from the shoulders down, and breathed with a ventilator. Minutes after he awoke and learned of his situation, he told his wife he did not want the breathing tube and asked that it be disconnected. He was told he might not be able to breathe without it, but insisted he was "ready"—the tube was disconnected five hours later after consultation with his family and he died shortly thereafter.<sup>1</sup>

This case has been praised by some ethicists as an example of how modern medical ethics should work, by giving patients the opportunity to exercise personal choices even for lifeending decisions. And there is no doubt more than a grain of truth to this. But, for me, the case also raises a number of questions.

Most important among these questions is what safeguards should be in place when a seemingly competent patient chooses to die? I say "seemingly competent" because competence can be a subtle notion in such situations, involving elements of time (i.e., is the decision sustained over time) and proportionality (i.e., is the level of competence proportional to the degree of risks and benefits flowing from the decision?).

Time is an essential element for several reasons. Although the patient was described as lucid, a 16 foot fall causing such damage to the higher cord could easily have caused a concussion, potentially compounded by the effects of sedation he received. A clinician faced with a patient making a life-ending decision would want a more thorough mental status examination than a simple determination of the ability to answer simple questions. Was his concentration intact? He would need to be able to concentrate enough to absorb complex information about his condition, prognosis, and the effects of his condition and decision, not just on his life, but on the lives around him, including the baby on the way.

Was his concentration consistent over several days? In a mild delirium, concentration can wax and wane over hours, and reports indicate only about five hours passed between his awakening and death. I wonder if this was an adequate amount of time to assess his level of consciousness, and determine whether he suffered a traumatic brain injury.

In addition to the effects of the accident on his central nervous system, the emotional effects could have had tremendous effects on his decision-making capacity. Since 1942, in the aftermath of the Cocoanut Grove fire and Erich Lindemann's classic paper, it has been well-known that grief has a fairly typical course that usually peaks in the hours and lasts for days after a traumatic event, but resolves somewhat over time.<sup>2</sup> The few hours after Mr. Bowers learned of his condition were certainly enough to cause grief, but not enough to allow him to begin coping with the consequences of the injury. What effect did this initial despair have on his reasoning?

It is common to require a waiting period before patients are permitted to make some irreversible decisions, thus allowing them time to understand their conditions, to weigh consequences from and alternatives to the decisions. For example, in Oregon's Death With Dignity Act, which creates a process for physician-assisted suicide for patients with terminal conditions, there is a total of 17 days required from the time of the first oral request for lethal medication to the time when such a prescription can be given to the patient.<sup>3</sup>



Richard L. Elliott, MD, PhD elliott\_rl@mercer.edu

Dr. Elliott is professor and director of Medical Ethics at Mercer University School of Medicine in Macon, GA. What were the consequences of the injury suffered by Mr. Bowers? While it was likely, perhaps probable, he would have continued to experience severe neurologic injury, I wonder if the full extent of his permanent injury was known when he made the decision leading to his death.

Thus, time is an essential consideration before allowing a patient to make a "competent" life-ending decision: time to establish a prognosis, time to determine the patients mental status accurately, and time to allow the patient to overcome the initial effects of emotional shock and grief.

Although news reports describe the patient as apparently "competent," details are sketchy, describing the patient as shaking his head "no" when asked if he wanted the breathing tube, and reporting the patient stating that he had lived a good life and was "ready" [to die]. Reports also indicate the decision was consistent with earlier statements that he did not want to live in a wheelchair. So was he competent, or, more precisely, did he have adequate decision-making capacity to choose to forgo ventilator support?

The key issue here is that there are different levels or degrees of competence, and that the level required for a particular decision is proportional to the risks and benefits of that decision. For decisions that carry low risk and have high benefits, such as accepting IV D50 when in a severely hypoglycemic state, only a very low level of competence is required—as these are usually emergencies, consent is often implied. Mere non-verbal acceptance or single word agreement is more than adequate to demonstrate decision-making capacity in such situations.

But for decisions that carry a high risk, a higher level of competence is needed. Mr. Bowers made a decision that carried the greatest risk – death. The benefit was primarily to ensure freedom from a ventilator. Mr. Bowers stated he did not want the breathing tube reinserted if he could not breathe on his own. Thus a level of competence going beyond brief answers or shaking of the head would have been needed to establish adequate competence for this decision.

Given the high risk of the decision, it is my opinion that more time was needed to establish the patient's decisionmaking capacity, e.g., his ability to understand more fully his physical condition (which itself needed more time to be established), his emotional state, and the consequences of whichever decision he would ultimately make. Two passages in the widely published report of the circumstances surrounding his death are of special concern. First, it was stated that family asked the doctors that Mr. Bowers be "brought out of sedation so he could be told of his condition and decide for himself whether he wanted to live or die." Second, according to his sister, an intensive care nurse, "We just asked him, do you want this? And he shook his head emphatically no."

It is likely the news reports missed many salient details



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of what actually happened. Given what was reported, I am concerned that the medical and emotional complexities of his situation were not given sufficient consideration. To be brought out of sedation in order to be confronted with a life-or-death decision, presents many difficulties. To be asked the question in a potentially pejorative manner (Do you want this?) might easily have conveyed to Mr. Bowers what the "correct" decision was from the family's perspective. In addition, by asking the question so soon after awakening, they may have allowed him insufficient time to regain awareness and emotional strength to make such an important decision.

One caveat to my discussion is that it is always easier to see things in retrospect, especially when incomplete reports may oversimplify the actual situation. I hope a fuller account will be published so that we can better understand what happened from multiple perspectives—patient, family, and doctors.

I welcome any comments or questions, and can be reached at elliott\_rl@mercer.edu

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# FINANCIAL

# Lessons from Vegas: Don't Get Fooled By Average Returns

### Setu Mazumdar, MD, CFP, President and Wealth Manager, Lotus Wealth Solutions

A few weeks ago I took my family to our annual vacation spot--Las Vegas. It's a place that defies the law of averages. Normal people stay awake 16 hours a day. In Vegas, it's 20+ hours a day. At home one bowl of cereal and a banana completes my breakfast. In Vegas my stomach's capacity expands to fit five plates at the wall to wall buffets, and my bladder holds a gallon.

One of the lessons I learned this time is that many gamblers mistake their actual wins and losses with what should have happened based on averages.

Take the game of craps for example—my favorite game to play in the casino. In this game you roll two dice and win or lose depending on what number you bet on and what number shows up on the dice.

There's a symmetrical distribution of possible number combinations of the dice. The number 7 is statistically supposed to show up the most number of times (1 out of every 6 rolls), the 2 and 12 the least number of times (1 out of every 36 rolls), and the other numbers are in between.

But when I play the game, I'll get sequences like the following:

742772

In that six number sequence the number 7 showed up triple its average and the number 2 showed up 12 times its average. So all the gamblers betting against the 7 empty their wallets in a hurry. They've made the mistake of confusing actual outcomes with average outcomes.

It's also a common mistake I see individual investors and financial advisors make. Let's discuss 3 examples as they relate to your investment portfolio:

### Short Term Averages Vary Dramatically From Long Term Averages

The US stock market as represented by the S&P 500 Index from 1926 to 2011 (a period of 86 years) had an average annual return of about 9.8% per year. This is how the media and financial advisors make you believe that you should expect about a 10% annual rate of return. The reality is that this is time dependent. Take a look at the average annual return by decade:

Decade	Average annual return
1930s	-0.05%
1940s	9.2%
1950s	19.4%
1960s	7.8%
1970s	5.9%
1980s	17.6%
1990s	18.2%
2000s	-0.95%



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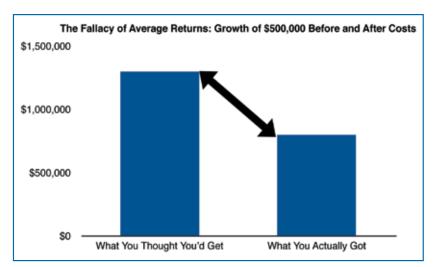
In more than half of the decades your average annual rate of return was less than the long term average, with two decades generating a slight negative return over ten years (the Great Depression in the 1930s and the so called "lost decade" of the 2000s).

An investor in the 1930s probably wanted to throw in the towel only to miss out on the high returns over the next 20 years. Conversely an investor in the 1980s and 1990s mistakenly thought that the "new normal" was annual 20% returns only to be sorely disappointed in the 2000s with the financial collapse.

What makes averages even more deceptive is the fact that stock market returns don't follow a bell shaped curve, so you'll have extreme negative and positive events that are not explained by simple mathematical models. For example, the highest 12 month return has been +54% and the lowest return -43% in one year.

### **Portfolio Friction Reduces Average Returns**

Take a look at the chart below.



Let's assume that you have \$500,000 invested in mutual funds in a taxable brokerage account. If you applied the 10% average annual rate of return to that initial investment, then after 10 years your portfolio grows to about \$1.3 million.

But that's like skating on ice—it assumes that there's no drag on performance due to costs.

Three big costs include mutual fund expenses, inflation, and taxes. Assuming you pay about 1% annually for fund expenses, lose another 1% to taxes on capital gains and dividends, and inflation averages about 3% per year, then your average annual inflation-adjusted aftertax return drops to 5% annually.

So that \$1.3 million portfolio drops to about \$800,000.

That's about \$500,000 less than what you expect based on the historical average return—no small sum of money.

From a practical perspective it means that you'd have to work 12 years longer to maintain your purchasing power and get you back to \$1.3 million. Imagine the extra number of nights, weekends, and holidays you'd have to give up.

### Individual Investors Vastly Underperform Market Averages

An independent organization called DALBAR publishes its study of individual investor behavior and how that impacts investment returns. The numbers change some annually but the conclusions are the same.

As of 2011 for the past 20 years individual investors earned about a 3.8% annual rate of return in stocks compared to about 9.1% annual rate of return for the US stock market.

You may think that investors do better with bonds,

but the study shows that bond investors got a paltry 1% annual rate of return. That was much worse than annual 7% rate of return on US bonds.

What makes this so much worse is that it doesn't even account for the eroding effect of taxes and inflation on your investment portfolio as I discussed above.

The study found two potential reasons why investor performance was so abysmal:

1. Investors tend to guess wrong especially when the stock market goes down

2. Investors tend to hold their investments for only a few years

So remember that anytime you look at average annual returns of any investment, that average assumes that you stay in the market and don't bail out no matter what happens. It doesn't account for the irrational behavior you have when it comes to investing.

Did you stick it out in 2008? And taking it one step further did you have the guts to buy more stocks during the financial collapse? C'mon be honest. If you're a mid or late career physician and you pulled this off, then you'd be semi or fully retired by now with the subsequent 100%+ rate of return since then.

One key to successful investing is to realize that it's unlikely you'll obtain the average rate of return. When you invest with this thought in your mind, you'll have more realistic expectations of investment returns.

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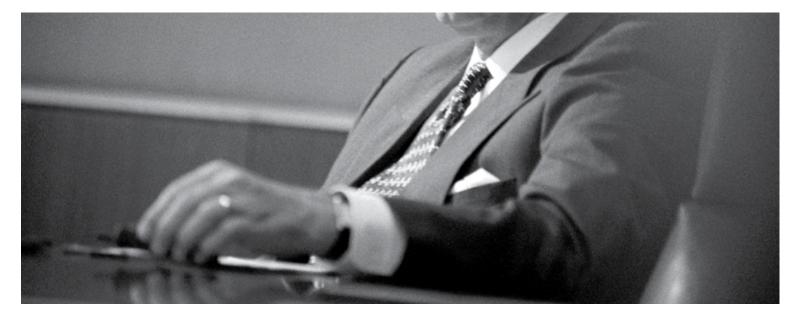
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