





Disclosure

- No financial conflicts to disclosure
- Subject for one of the studies I will discuss



Objectives


- Define burnout
- Diagnose burnout
- Understand consequences of burnout
 - Health of practitioner
 - Patient care
- Strategies to decrease burnout
 - Individual vs environment






Burnout

Syndrome characterized by three domains

- Emotional exhaustion
 - loss of enthusiasm for work
- Depersonalization
 - an anomaly of self-awareness, consisting of a feeling of watching oneself act, while having no control over a situation
 - Feelings of cynicism
- Low sense of personal accomplishment associated with decreased work performance



How do we diagnose burnout?

How do we measure burnout?

Maslach Burnout Inventory

- Most widely used, well-validated instrument for burnout assessment
- 22-item tool
- Rate the frequency with which they experience various feeling or emotions on a 7-point Likert scale

Burnout signified by

- High values of depersonalization
- High values of emotional exhaustion
- Low values of personal accomplishment



Maslach Burnout Inventory

- Gold standard
- Length limits utility for larger surveys of medical professionals
- Single item measures of emotional exhaustion and depersonalization provide meaningful information on burnout in medical professionals

West CP, et al. J Gen Intern Med 2009; 24:1318-21
West CP, et al. J Gen Intern Med 2012; 27:1445-52



Emotional exhaustion question:

"I feel burned out from my work."

- 0 Never
- 1 A few time/year
- 2 Once/month or less
- 3 A few times/month
- 4 Once/week
- 5 A few times/week
- 6 Every day



Depersonalization question:

"I have become more callous toward people since I took this job."

- 0 Never
- 1 A few times/year
- 2 Once/month or less
- 3 A few times/month
- 4 Once/week
- 5 A few times/ week
- 6 Every day



Burnout as a Medical Diagnosis ICD – 10 Code Z73.0

- Persistent complaints of exhaustion
- Unable to recover after rest
- Duration: 3 months
- 2 out of 6:
 - Muscular aches
 - Dizziness
 - Tension headaches
 - Sleep disturbance
 - Inability to relax
 - Irritability



How does burnout for
physicians compare to
general US population?



ORIGINAL INVESTIGATION

Burnout and Satisfaction With Work-Life Balance Among US Physicians Relative to the General US Population

Tait D. Shanafelt, MD; Sonja Hoone, MD; Lijun Tan, PhD; Lettie N. Dyrbye, MD, MPH; Wayne Sotile, PhD; Daniel Sattler, BS; Colin P. West, MD, PhD; Jeff Sloan, PhD; Michael R. Oreskovich, MD

Arch Intern Med 2012; 172(18):1377-1385

- Physicians from all specialty disciplines assembled from AMA Physician Masterfile (PMF)
- Probability-based sample of gen US population aged 22-65 yrs from phone numbers & residential addresses
- Demographic questions
- Maslach Burnout Inventory (22 items) with three subscales

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Burnout for physicians vs US general population

- Physicians n = 7288 (27% response rate)
 - Demographics similar to 814,022 US physicians in PMF
- US general population n = 3442 working US adults
- In aggregate 45.8% of physicians were experiencing at least one symptom of burnout
- Physicians in the front line of care seem to be at greatest risk

Arch Intern Med 2012; 172(18):1377-1385

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Burnout for physicians vs US general population

- Pooled multivariate analysis in both populations
- Identify factors independently associated with burnout after adjusting for age, sex, relationship status, hr worked/week, highest ed level
- Characteristics associated with lower overall risk for burnout:
 - Being older
 - Being married
- Characteristics associated with higher overall risk for burnout:
 - Hours worked/week
- Educational level complicated
 - Physicians more likely to have symptoms of burnout than HS graduates
 - US adults with bachelors, master's, professional or doctoral degree were at lower risk for burnout (OR 1.36; $p < .001$)
- Burnout is highly prevalent among US physicians—more so than amongst other US workers

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Burnout by specialty

The JAMA Network

From: **Burnout and Satisfaction With Work-Life Balance Among US Physicians Relative to the General Population**

Arch Intern Med. 2012;172(18):1377-1385. doi:10.1001/archinternmed.2012.3199

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What are the consequences of burnout?

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Consequences of burnout

Physician health

- Decreased immunity
- Cardiovascular disease
- Decreased cognition
- Substance abuse
- Psychiatric disease

Professional life

- Low career satisfaction
- Promote early retirement

Shanafelt T, et al. *J Am Coll Surg.* 2011;212(3):421-422
Balch CM, et al. *Ann Surg.* 2011;254(4):558-568


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Consequences of burnout

Burnout may have adverse personal consequences for physicians

- Broken relationships
- Problematic EtOH use
- Suicidal ideation


Shanafelt T, et al. *Am J Med.* 2003;114(6):513-519
 Oreskovich MR, et al. *Arch Surg.* 2012;147(2):168-174
 Shanafelt T, et al. *Arch Surg.* 2011;146(1):54-62



Suicidal Ideation Among American Surgeons

Tait D. Shanafelt, MD; Charles M. Balch, MD; Lotte Dyrbye, MD; Gerald Bechamps, MD; Tom Russell, MD; Daniel Satele, BA; Teresa Rummans, MD; Karen Swartz, MD; Paul J. Novotny, MS; Jeff Sloan, PhD; Michael R. Oreskovich, MD
Arch Surg 2011;146(1):54-62


- ACS members sent anonymous survey June 2008
- 7905 participants (31.7% response rate)
- Survey included questions re
 - Suicidal ideation
 - Use of mental health resources
 - Depression screening tool
 - Standardized burnout assessment
 - Assessment of quality of life



Suicidal Ideation Amongst American Surgeons

Arch Surg 2011;146(1):54-62


- Suicidal ideation in past year: 1 in 16 (6.3%)
- If >45 y/o rate of suicidal ideation 1.5 to 3-fold higher than general US pop
 - ... To make it even worse...
- Factors known to reduce risk of suicide in general population:
 - Higher level of education
 - Surgeons all highly educated
 - Higher rate of employment
 - Surgeons are virtually all employed
 - Being married
 - Surgeons are overwhelmingly married: 88%
 - Age 45-54
 - Reverse true for surgeons (> 45 y/o ↑ rate of suicidal ideation)



Suicidal Ideation Amongst American Surgeons

Arch Surg 2011;146(1):54-62


- Suicidal ideation amongst surgeons strongly related independently to
 - Symptoms of depression
 - Degree of burnout
- Significant adverse relationship in all three domains
- If suffered suicidal ideation:
 - 26% sought professional help
 - 60% feared seeking help could affect license



Link between suicidal ideation and burnout first described in medical students


Dyrbye LN et al. *Ann Intern Med* 2008; 149:334-341

- Burnout at study entry → predictor for suicidal ideation in next 12 mo
- Dose-response relationship: decrease burnout resulted in decreased likelihood suicidal ideation (controlling for depression)



Burnout Amongst Anesthesiologists

When was your last stress test?
 Well, I went to work yesterday.



High Incidence of Anesthesiology Burnout: Should We Be Worried?

Gildasio S. De Oliveira, Jr, Ronald L. Harter, M.D., et al. Robert J. McCarthy, D.Phil.

Population: AMA
Surveys sent to
Five part survey:
• Demographic
• Select from
• Satisfaction:
• Self-efficacy
• Maslach Burnout
• Support from

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Burnout in Anesthesiology Chairs

Anesthesiology 2011; 114:181-93

- Response rate: 102/117 (87%)
- Median age: 55 years (52-61)
- 50% chair for < 5 years
- Men: 82%
- Work > 60 hr/ week: 64% (yrs on the job not related)
- Problems causing stress to most:
 - faculty retention
 - department finances
- Job satisfaction

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Burnout in Anesthesiology Chairs

Anesthesiology 2011; 114:181-93

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Anesthesiology residency program director burnout

Gildasio S. De Oliveira, Jr MD (Instructor)^a, Marcela D. Almeida MD (Clinical Associate)^b, Shireen Ahmad MD (Associate Professor)^a, Paul C. Fitzgerald MS, RN (Research Associate)^a, Robert J. McCarthy PharmD (Research Professor)^{a,*}

^aJ Clin Anes 2011;23:176-82
^bDepartment of Anesthesiology, Northwestern University Feinberg School of Medicine, Chicago, IL 60611, USA
^cDepartment of Psychiatry, University of Chicago Pritzker School of Medicine, Chicago, IL 60637, USA

- Population: AMA GME section: 132 programs in 2009-10
- Response rate: 100/132 PDs (76%)
- Similar survey to chairs, with different stressors asked:
 - Violence at workplace
 - Sexual harassment
 - ACGME issues
 - Substance abuse
 - Compliance issues
 - Resident recruitment
 - Resident dismissal
 - Disputes with chair
 - Malpractice
 - Disciplinary actions for residents

Age (yrs; n)	
33 to 44	26
45 to 50	26
51 to 55	23
55 to 65	23
Gender (n)	
Male	72
Female	28

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Anesthesiology Residency PD Burnout

J Clin Anes 2011;23:176-82

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Effects of burnout on patient care

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Consequences of burnout

Patient care

- Erode professionalism/reduced empathy
 - Thomas MR, et al. *J Gen Intern Med* 2007;22:177-83
 - Wallace JE, et al. *Lancet*. 2009;374(9702):1714-1721
 - Dyrbye LN et al. *JAMA*. 2010;304(11):1173-1180
- Influence quality of care
 - Shanafelt TD, et al. *Ann Intern Med* 2002;136:358-67
- Increase risk of medical errors
 - West CP, et al. *JAMA* 2006;296:1071-8
 - Shanafelt T, et al. *Ann Surg*. 2010;251(6):995-1000

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The Prevalence of Burnout and Depression and Their Association with Adherence to Safety and Practice Standards: A Survey of United States Anesthesiology Trainees

Gildasio S, de Oliveira Jr., MD, MSCI,* Ray Chang, BS,* Paul C. Fitzgerald, MS,* Marceta D. Almeida, MD,† Lucas Santana Castro-Aives, MD,* Shireen Ahmad, MD,* and Robert J. McCarthy, DPharm*

Anesth Analg 2013;117:182-93

Population: US Anesth Residents in ASA directory: 2773 (resp rate 54%)
 Survey: 5 sections

- Demographics
- MBI-HSS (depersonalization 5 Q's, emotional exhaustion 9, personal accomplishment 8)
- Harvard National Depression Screening Day Scale
- Anesthesiology best practice behaviors
- Evaluation of self-reported errors, modification for anesthesiology residents

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Anesthesiology Resident Burnout & Safe Practice

Anesth Analg 2013;117:182-93

- Primary analysis: Incidence of anesthesiology resident burnout & depression
 - High risk of burnout: 41%
- Secondary analysis: Association of burnout & depression with best practice characteristics & self-reported error rates

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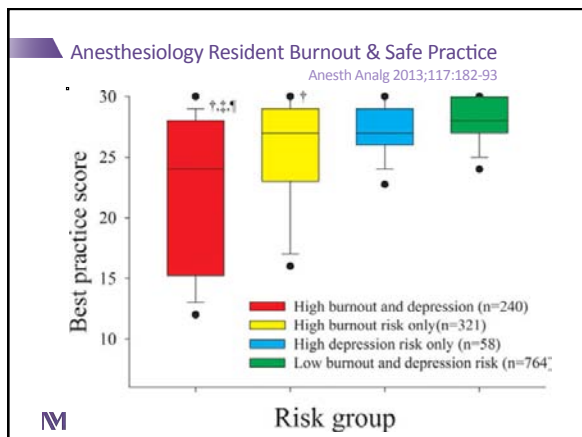
Anesthesiology Resident Burnout & Safe Practice

Anesth Analg 2013;117:182-93

Individual positive items	Often	Always
Visits patients preoperatively	320 (24)	720 (53)
Checks blood results preoperatively	323 (24)	832 (61)
Reads about the next day's surgery and patient's disease	387 (29)	480 (36)
Performs a complete machine check at beginning of the day	150 (11)	940 (69)
Checks airway equipment preoperatively	81 (6)	1113 (82)
Double checks medication vials for correct administration	350 (26)	729 (54)
Makes sure the monitor alarms are enabled	263 (19)	641 (47)
Confirms that surgery will be performed on correct side	307 (23)	773 (57)
Wears gown, gloves, and mask for spinal/epidurals	104 (8)	920 (67)
Reviews postoperative chest radiography after central line placement	296 (22)	442 (33)

Items scored 1 = never, 2 = rarely, 3 = sometimes, 4 = often, 5 = always

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Anesthesiology Resident Burnout & Safe Practice

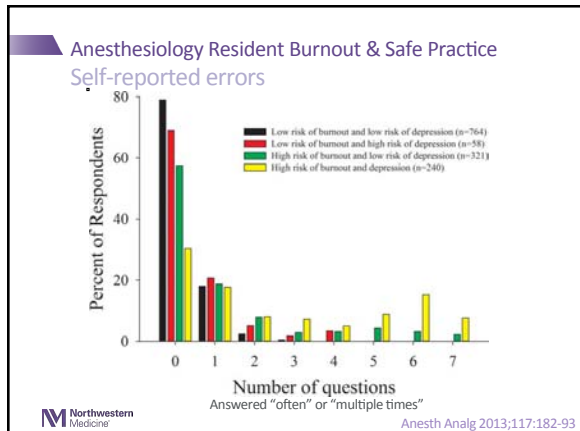
Self-reported errors

Questions: Often, Mult times, Sometimes, Once, Never

- I make mistakes without negative consequences to patients
- I perform procedures without appropriate training
- I make mistakes with negative consequences to patients
- I fall short in the quality of care I provide to my patients
- I do not have enough time or attention for my patients
- I do not monitor the patient in the OR as closely as I should
- I have made medical errors involving the wrong drug or dose in the last year

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Anesth Analg 2013;117:182-93



- ### Anesthesiology Resident Burnout & Safe Practice
- Anesth Analg 2013;117:182-93
- Risk of burnout (41%)
 - Relatively high, but similar to Chairs and PDs
 - Lower in men
 - Higher in residents who consume more EtOH
 - Working > 70 hr/wk
 - Call > 1 every 5 days
 - Risk of depression (22%)
 - 1.8-fold higher prevalence than general US population
 - Suicidal ideation > 2X the age-adjusted rate observed in developed countries
 - Women at increased risk—same as general population
 - Being single increased risk—same as general population
- Northwestern Medicine



- ### Avoiding Burnout
- #### The Personal Health Habits and Wellness Practices of US Surgeons
- Tait D. Shanafelt, MD,* Michael R. Oreskovich, MD,† Lotte N. Dyrbye, MD,* Daniel V. Satele,‡ John B. Hanks, MD,§ Jeff A. Sloan, PhD,¶ and Charles M. Balch, MD¶
- Ann Surg 2012;255:625-33
- October 2010 anonymous survey to ACS membership
 - Focus on self-reported
 - Exercise habits personal health habits
 - Medical care/health screening practices
 - Personal wellness strategies
 - Measures associated with lower rate of burnout and improved QOL
 - Increase weekly aerobic exercise & weight training to CDC rec levels
 - Annual visit to primary care physician
 - Age-appropriate preventative testing
 - Chicken and egg
- Northwestern Medicine

- ### Job Factors Leading to Burnout
- Work-Home conflicts
 - Lack of social support
 - Lack of control over professional life
 - Diminished resources
 - Call frequency (residents)
 - Teach stress-management techniques
 - Decreases scores on depersonalization and emotional exhaustion
- McCue JD, Sachs CL. Arch Intern Med 1991;151:2273-7
- Northwestern Medicine

Original Investigation

Intervention to Promote Physician Well-being, Job Satisfaction, and Professionalism A Randomized Clinical Trial

Colin P. West, MD, PhD; Loukianos N. Dyrbye, MD, MPH; Jeff E. Rabin, MD, MSc; Tom C. Calk, MD; John H. Davidson, MD; Adamantios Mullan, MD; Susan A. Romaniuk, MD; Juan M. Herron-Hellyer, RN, PhD; Jeff A. Sloan, PhD; Tat D. Sharafell, MD

JAMA Intern Med. doi:10.1001/jamainternmed.2013.14387
Published online February 10, 2014.

- Randomized clinical trial of 74 internists at Mayo Clinic over 2010-2012
- 350 non-trial participants contemporaneously surveyed
- 19 biweekly facilitated discussion groups one hour paid time
 - Mindfulness
 - Reflection
 - Shared experience
 - Small-group learning
- Main outcomes
 - Burnout
 - Meaning in work
 - Empowerment & engagement at work
 - Symptoms of depression
 - Quality of life
 - Job satisfaction

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Intervention to promote physician well-being


JAMA Intern Med. doi:10.1001/jamainternmed.2013.14387
Published online February 10, 2014.

- First randomized clinical trial evaluating an initiative with employer-provided protected time designed to promote meaning in work and reduce distress among physicians.
- Compared to those only receiving protected time, small group intervention had significant improvements in
 - Meaning
 - Empowerment
 - Engagement in work
 - Rate of depersonalization
- Improvements seen at end of study were also seen 12 months later
- Domains of burnout & distress
 - Not different between study arms
 - Improved in both study arms compared to non-participants

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What do we know?

- Physicians, in general are at high risk for burnout
- Surgeons and anesthesiologists: approx 50% of every group studied were at high risk for burnout
- If one is both depressed and at high risk for burnout, the effects are increased for
 - Medication errors
 - Mistakes w negative consequences to pt
 - Less attention to pts
- Important to recognize, as reducing stress does allow burnout to reverse
- Prevention would be best: Stress reduction and mindfulness may help. No good data yet.



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http://www.nm.org

