



Can stress really kill you?

How to recognize signs of stress
and why you should care



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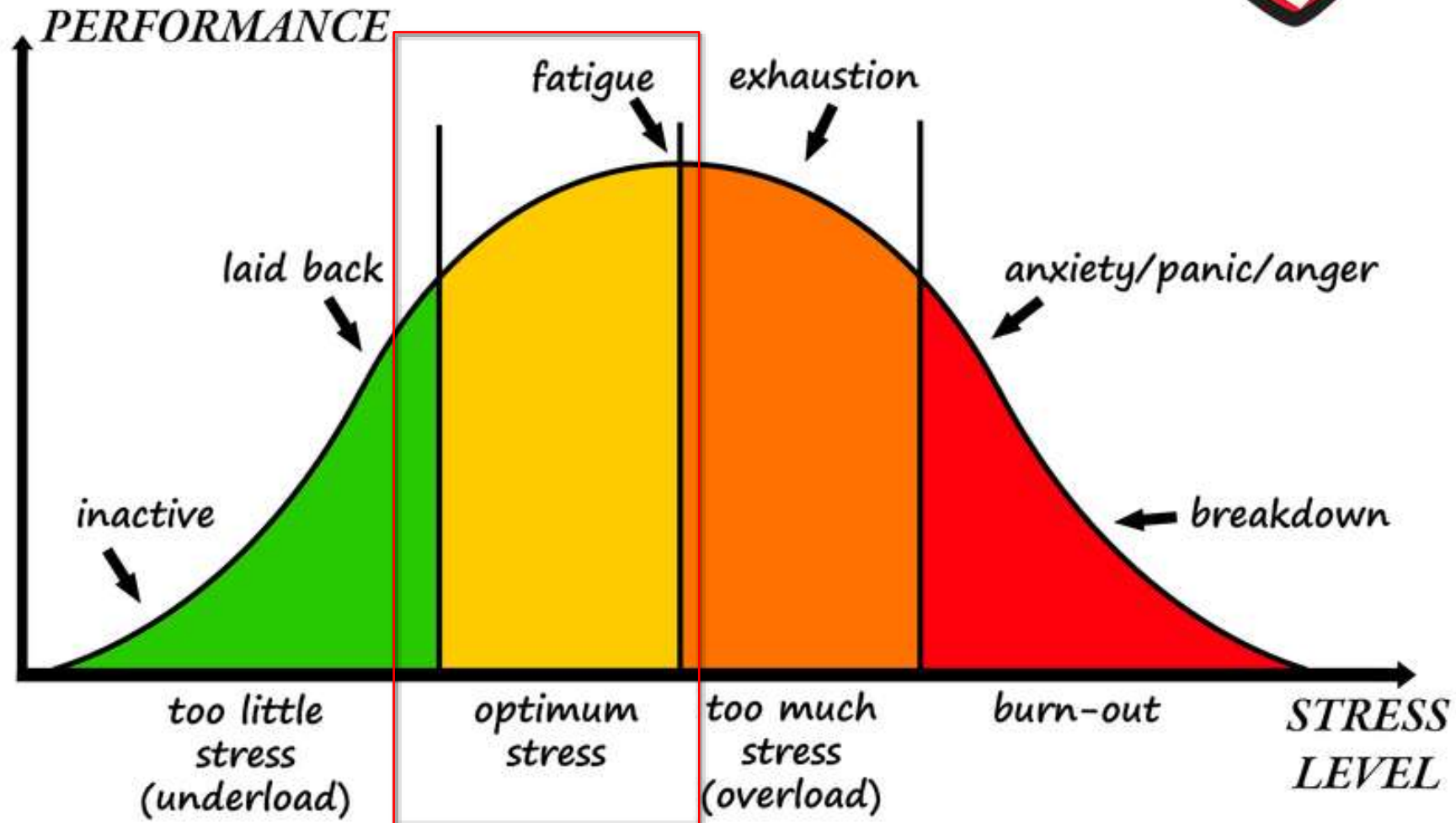
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Disclosures

- This presentation is an initiative from the Canadian Medical Association (CMA)
 - It has been prepared by Catherine Laurin and opinions expressed do not necessarily represent those of the CMA
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STRESS CURVE

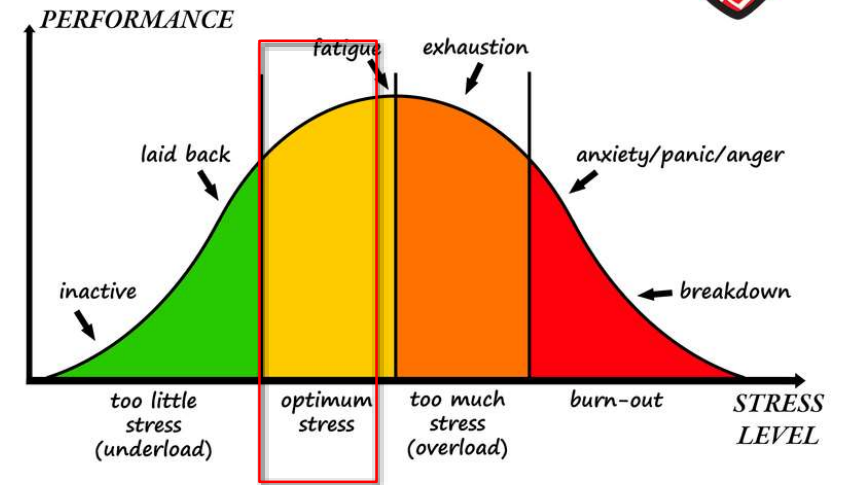


Learning objectives

- Gain knowledge about stress and understand the importance of staying in the optimal stress zone!
 - Causes and symptoms
 - Sources of stress
 - Positive stress vs negative
 - Burnout

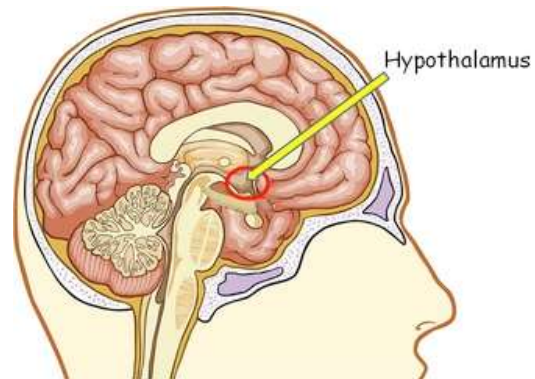
...stayed tuned for what you can do about it!

STRESS CURVE



What is stress?

Stress is your body's way of responding to any kind of demand. It's essentially designed to **maintain homeostasis** and promote **survival** in face of threat/dangers



Mammoth or work overload

Whether you're living a **real or imagined danger**,
your brain will respond in the same way:
it will work to **mobilize your body to protect you**
from imminent danger



Lemon exercise

What does this tell you about the mind-body connection?

Your brain doesn't make the difference between a real or a mind-induced situation
(just think about the last suspense movie you've watched!)



Your brain gives
real power to **your thoughts!**



Stress

Stress is what we “feel” when there is an imbalance between life demands and our ability to effectively cope

- COPING**
- Physical
 - Mental
 - Skills
 - Resources
 - Support
 - Time



- DEMANDS**
- Work
 - Family/friends
 - Financial obligations
 - Health
 - Environmental factors

Stress

“Healthy” vs “unhealthy” stress

POSITIVE

Brief increases in heart rate, mild elevations in stress hormone levels.

Wedding, giving a talk, etc.

TOLERABLE

Serious, temporary stress responses, buffered by supportive relationships.

Loss of a loved one, an injury, etc.

TOXIC

Prolonged activation of stress response systems in the absence of protective relationships.

Exposure to violence, chronic disease, etc.

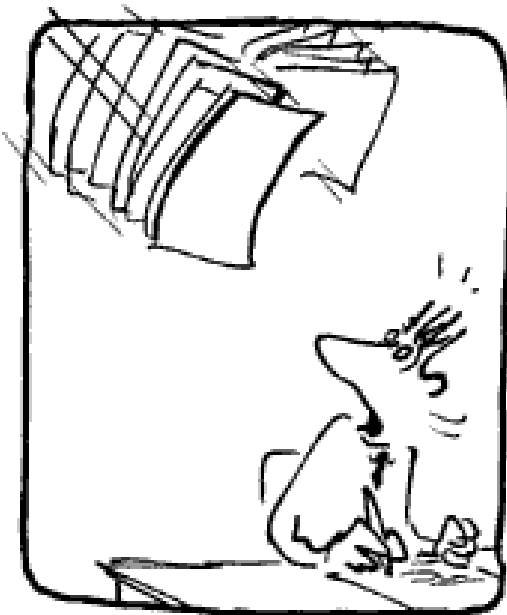


Typical stress responses

Stress Warning Signs and Symptoms	
Cognitive Symptoms	Emotional Symptoms
<ul style="list-style-type: none">▪ Memory problems▪ Inability to concentrate▪ Poor judgment▪ Seeing only the negative▪ Anxious or racing thoughts▪ Constant worrying	<ul style="list-style-type: none">▪ Moodiness▪ Irritability or short temper▪ Agitation, inability to relax▪ Feeling overwhelmed▪ Sense of loneliness and isolation▪ Depression or general unhappiness
Physical Symptoms	Behavioral Symptoms
<ul style="list-style-type: none">▪ Aches and pains▪ Diarrhea or constipation▪ Nausea, dizziness▪ Chest pain, rapid heartbeat▪ Loss of sex drive▪ Frequent colds	<ul style="list-style-type: none">▪ Eating more or less▪ Sleeping too much or too little▪ Isolating yourself from others▪ Procrastinating or neglecting responsibilities▪ Using alcohol, cigarettes, or drugs to relax▪ Nervous habits (e.g. nail biting, pacing)

In other words...

Oh crap...

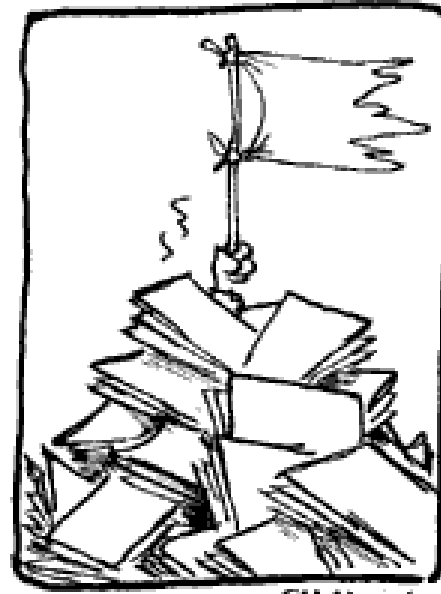


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I've got this...



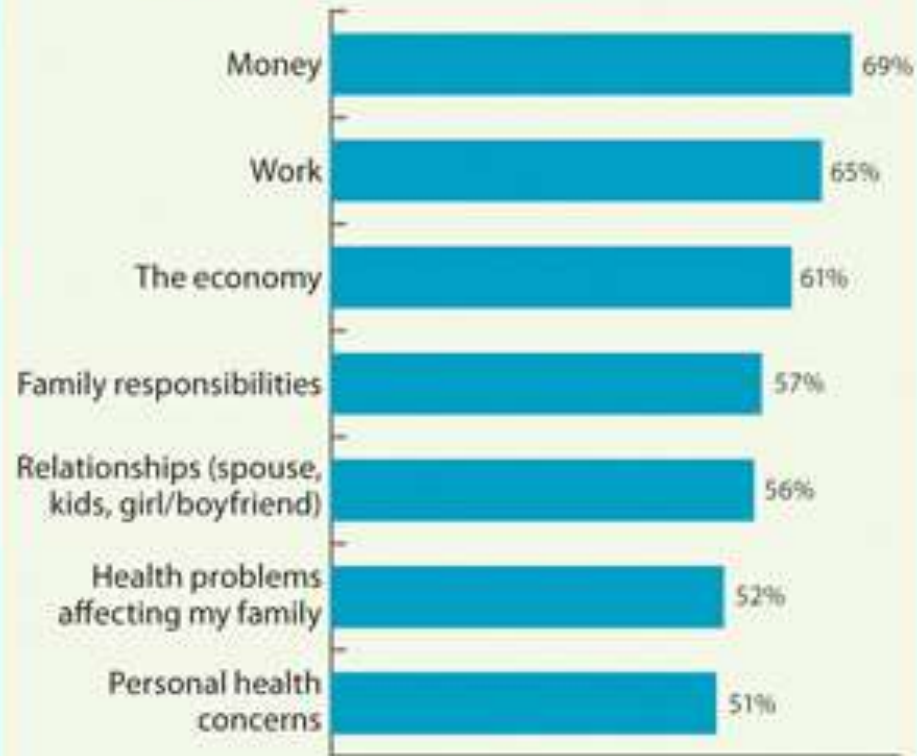
...no I don't!



CHALVIN-

Common Sources of Stress: Percent Somewhat/Very Significant

■ 2012 (% somewhat/very significant)

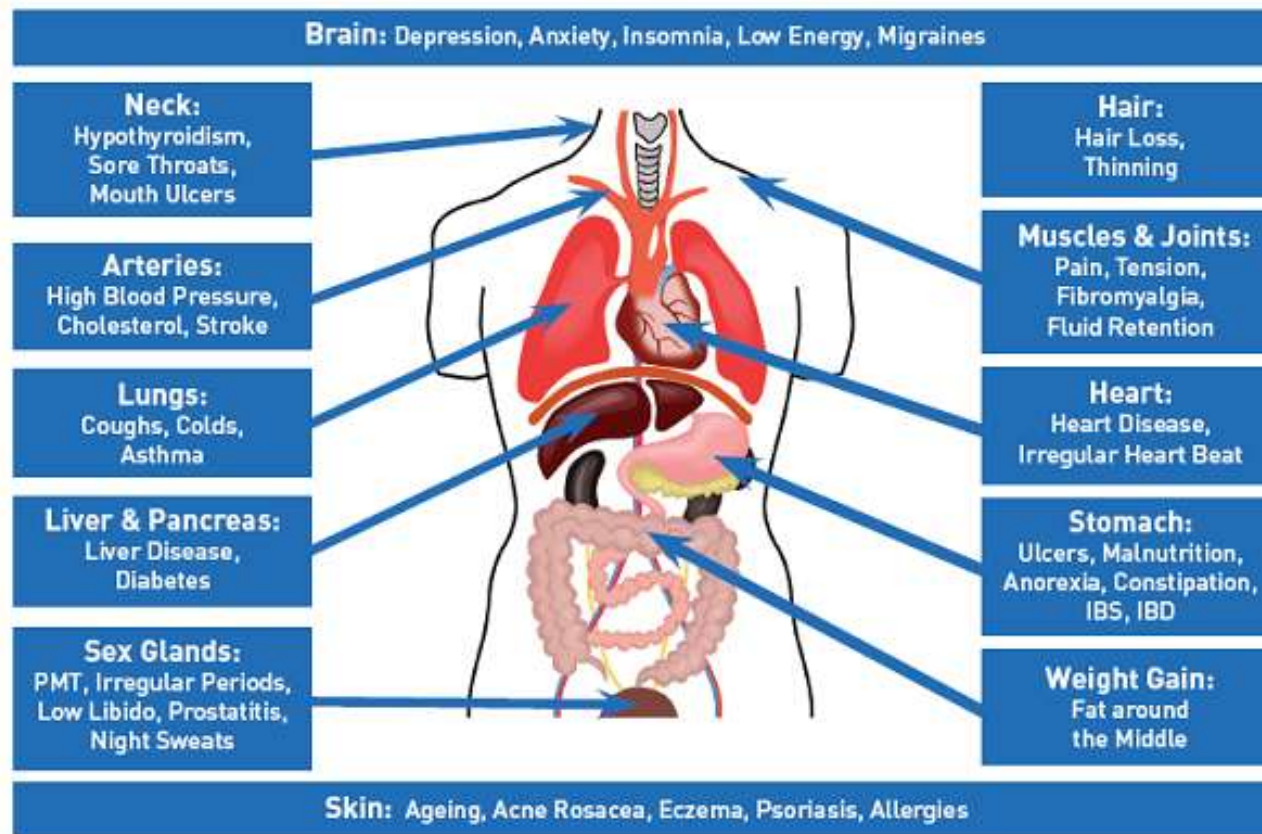


BASE: All respondents 2012 (n=2020)

Q625 Below is a list of things people say cause stress in their lives. For each one, please indicate how significant a source of stress it is in your life.

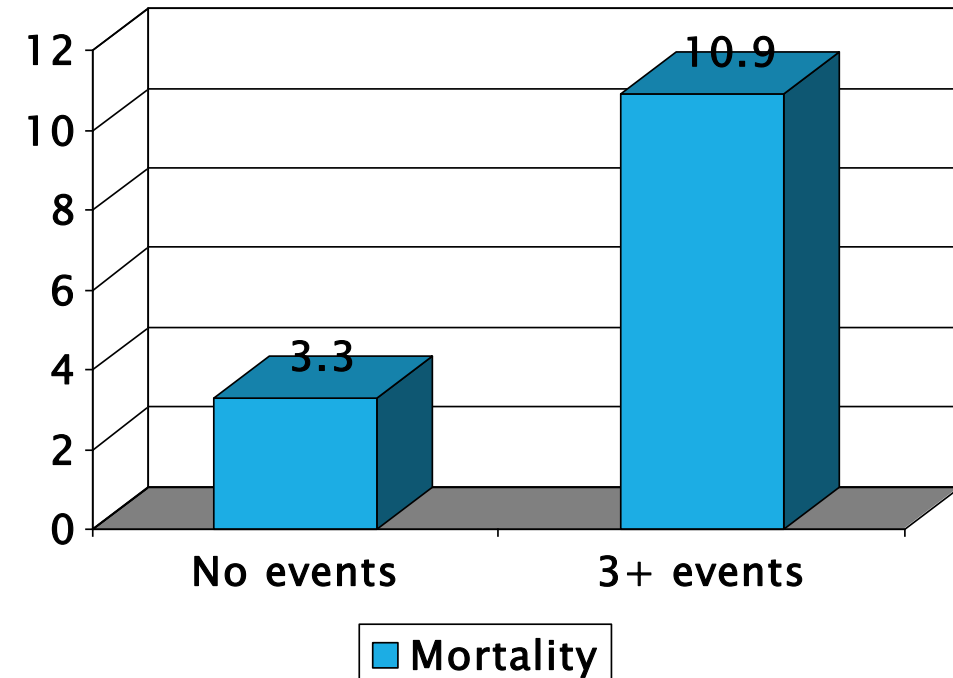
What sorts of situations are likely to stress us out?

Pushing ourselves too hard can be a risk factor for chronic diseases



Stress and increased mortality risk

- Prospective f-up study of the impact of **stressful life events** on 7-year all-cause mortality in 752 Swedish men (aged 50)
- **10.9 %** of men with **3 or more life events** had died vs. **3.3%** of those reporting no stressful life events (*evident only in men with low emotional support*)



Controlling for smoking, self perceived health, occupational class, and indices of social support

Being a sports fan (of a losing team) can increase heart attack risk

Carroll et al. examined hospital admissions for heart attacks following England's loss to Argentina in the 1998 World Cup



Argentina goalkeeper Carlos Roa saves Paul Ince's penalty ...



... and England fans' hearts miss a beat

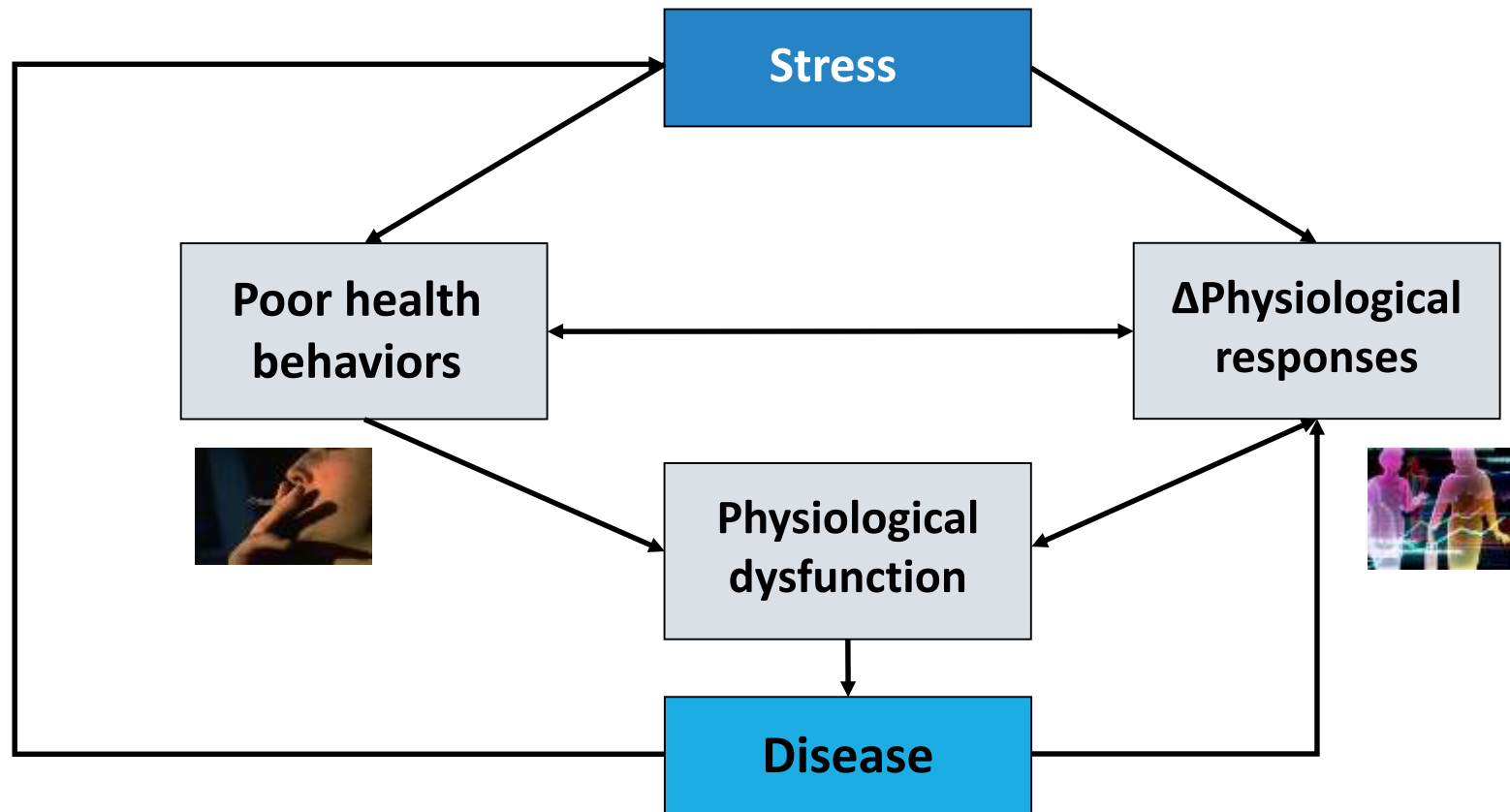
Table 2 Observed and expected numbers of emergency admissions for acute myocardial infarction on day and five days after England lost to Argentina by penalty shoot-out in 1998 World Cup

	Observed/expected* No of admissions	Actual-expected	Adjusted risk ratio†
Day of match	91/72	19.2	1.25 (0.99 to 1.57)
1 day after	88/72	16.0	1.21 (0.96 to 1.57)
2 days after	91/71	20.0	1.27 (1.01 to 1.61)
3 days after	76/74	-1.7	0.99 (0.77 to 1.27)
4 days after	71/74	-3.4	0.92 (0.71 to 1.19)
5 days after	83/72	10.9	1.13 (0.89 to 1.43)

* Predicted from a negative binomial regression model including sex, year and month of admission, temperature on day of admission, and day of week but excluding World Cup match days and five days after each match.

† Compared with days not following any World Cup match, from a negative binomial regression model including sex, year and month of admission, temperature on day of admission, day of week.

How does stress impact disease?



~50% Prevalence of **burnout**
for **resident** doctors
19% Suicidal ideations*

Physician burnout



Dimensions (Maslach Burnout Inventory)

- 1 Emotional exhaustion
- 2 Impersonal attitude toward patients & coworkers
- 3 Perceived lack of accomplishment

Burnout can lead to



Anxiety
Depression
Substance abuse
Addiction
Suicide

Among Canadian physicians

$\frac{2}{3}$
Feel that their workload is too demanding

$\frac{1}{2}$
Feel that tiredness, exhaustion or sleep deprivation affects the care they deliver

$\frac{1}{2}$
Feel that their family & personal lives have suffered

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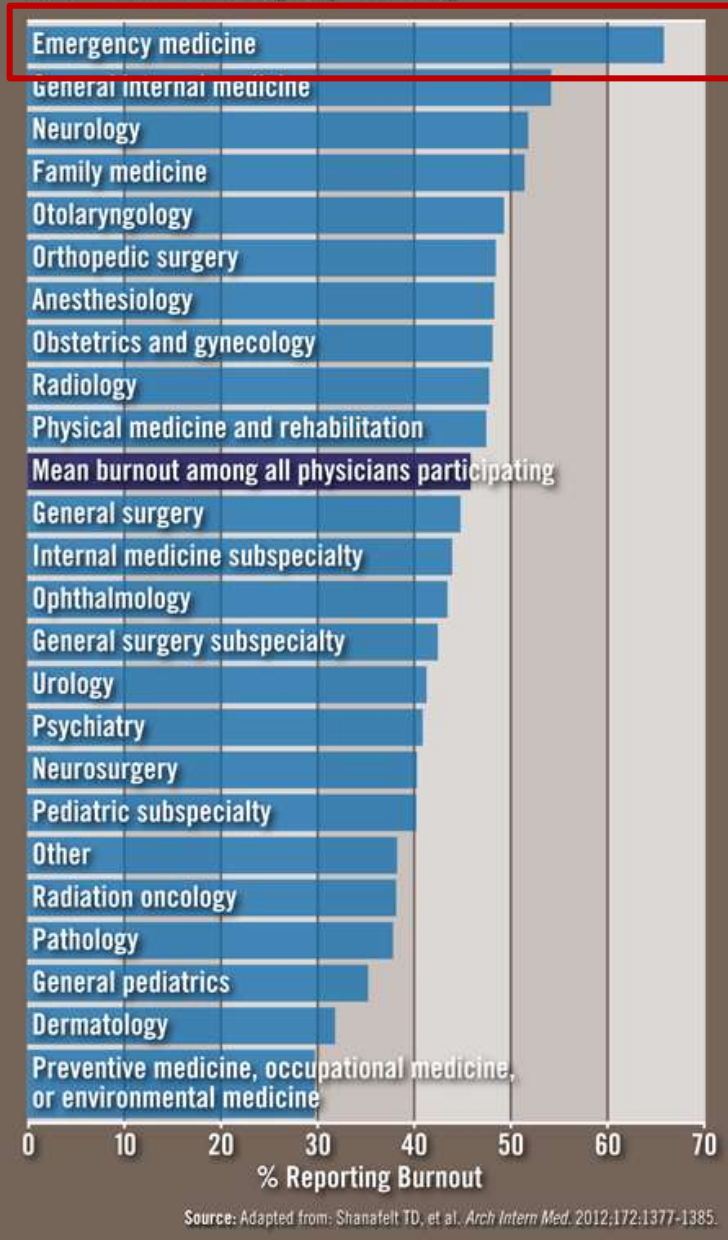
Source: Fralick M, Flegel K. Physician burnout: Who will protect us from ourselves? CMAJ 2014; June 2 [Epub ahead of print]

Are physicians at higher risk of the effects of stress/burnout?

- Compared to other professionals, the risk for burnout among physicians is **36% higher**
 - Bachelors degree (OR = .80)
 - Masters degree (OR = .71)
 - Doctoral degree (OR = .64)
- Absolute rates of burnout were **38% (docs) vs 28% (others)**
- Physicians also reported more dissatisfaction with work-life balance (**40% vs 23%**)



Figure **Burnout by Specialty**



ER docs had the highest rates of burnout compared to all other specialties : 65%



Dermatologists, pediatricians, and pathologists had the lowest rates of burnout : 30-35%



Seeking help



Reported being either aware or somewhat aware of what Physician Health Program services are available to them.



Reported accessing a Physician Health Program in the last 5 years

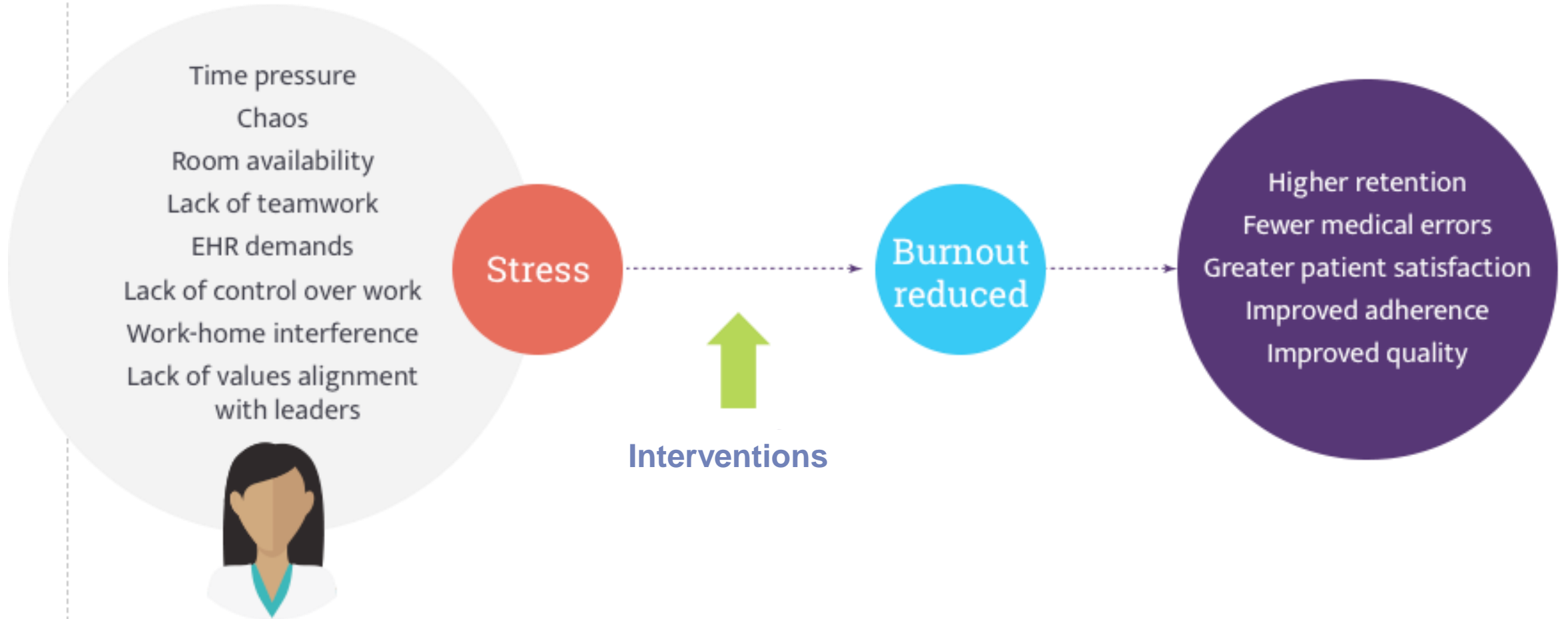
TOP REPORTED REASONS FOR SEEKING HELP:

- ① Mental health and related issues (e.g., depression, burnout)
- ② Personal stressors (e.g., relationships and family support)
- ③ Addictions and related disorders

TOP REPORTED BARRIERS TO SEEKING HELP:

- ① Believing situation is not severe enough
- ② Ashamed to seek help
- ③ Not aware of the range of services available

What burns docs out?



Does fatigue/burnout affect performance?

Table 1. The effects of fatigue on performance

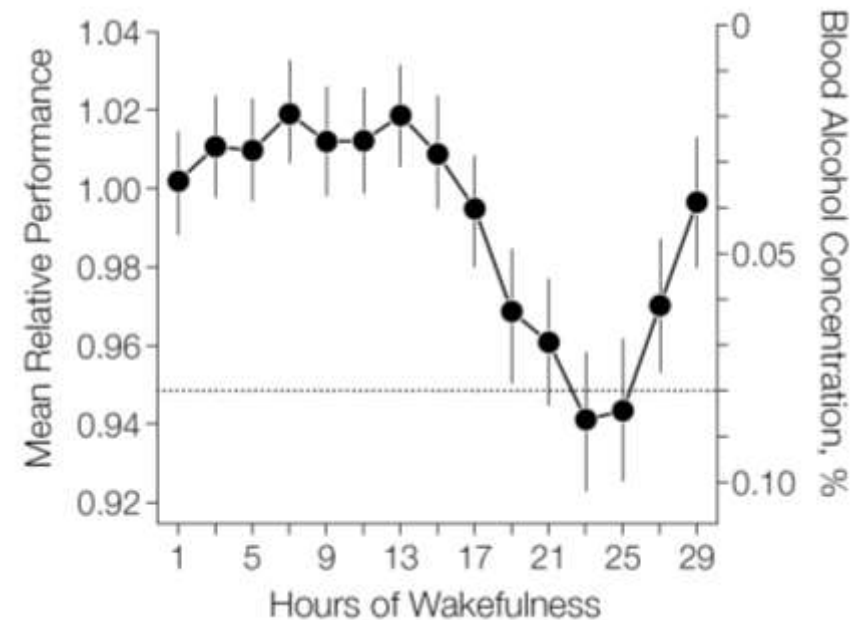
- Cognitive slowing
 - More variable performance
 - Neglect of nonessential activities
 - Decrease in learning and vigilance
 - Decay in problem solving
 - Impaired memory
 - Decline in motivation and clinical performance
-



How dangerous is sleep deprivation?

- After 24 hrs of sleep deprivation, psychomotor performance is ***equal to that during acute alcohol toxication***

Figure. Effect of Sleep Deprivation on Psychomotor Performance Compared With Blood Alcohol Concentration



Take home messages



- Stress is a problem of **inadequate supply in the face of excess demand**
- Stress is **common** in docs
- Stress is associated with **significant health consequences**: your personal health and quality of care with your patients
- **BURNOUT**, 3 signs to watch:
 - 1) cynicism
 - 2) emotional + physical exhaustion
 - 3) perceived lack of accomplishment

What can you do about it? Stay tuned for this afternoon's workshop...!

Acknowledgements

- Collaborator
Kim Lavoie, PhD



Questions?

