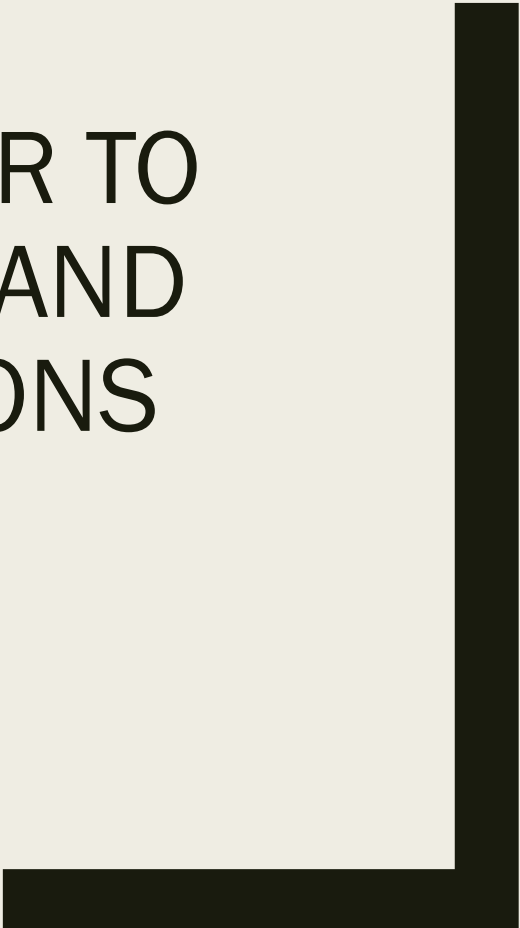


ROLE OF LAUGHTER TO IMPROVE HEALTH AND MAKE CONNECTIONS

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Disclosures

- Wellness champion- American College of Physicians
- Part of the wellness committee at Virginia Mason
- Certified laughter leader from World Laughter Tour™

A Noble Profession...



Luke Fildes [Public domain], via Wikimedia Commons

“The medical profession is one of the 2-3 great human endeavors. Anyone who is able to master the art and science of medicine should be grateful for those gifts and the opportunity to exercise them.

How few of us are sufficiently gifted to be a healer and helper of people.”

Arnold Horwitch 1983

What is Wellness?





Humor vs Laughter

- Humor: a personal, subjective, psychological phenomenon of shifting perception.
- Humor might make us laugh but it is variable
- Humor can offend someone-cultural differences
- Need to be mindful using humor in the workplace

UROLOGY



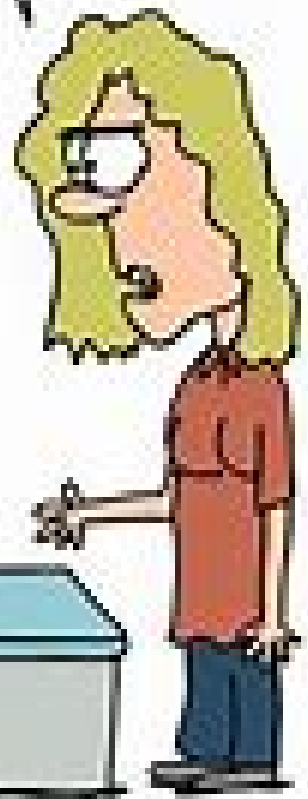
McMurry

Urology department. Can you hold?"

WOW! YOUR
CHOLESTEROL
HAS ME REALLY
WORRIED!

GACK!

UH - YOU MIGHT
WANT TO ACTUALLY
LOOK AT THE
PATIENT ...



Humor vs Laughter

- Laughter: a universal physical act, often stimulated by humor, but also for other reasons
- Therapeutic laughter: systematic, programmable activity combining laughing exercises and attitudinal healing
- Mirthful laughter has many health benefits
- Allows social connection and improves communication

LAUGHTER



**A SCIENTIFIC
INVESTIGATION**

"LIVELY AND FASCINATING...
FILLED WITH PROVOCATIVE INSIGHTS
AND SURPRISING DISCOVERIES."
STEVEN PINKER, author of *How the Mind Works*

**ROBERT R.
PROVINE**

SPECIAL **TIME** EDITION

The Science of Laughter

Our Bodies. Our Minds. Our Souls



Resiliency



- Definition: capability of a strained body to recover its size and shape after deformation caused by compressive stress
- Psychological resilience*: individuals ability to properly adapt to stress and adversity
- Work resiliency: capacity to take on challenges, bounce back from difficulties and thrive at work

Individual Resiliency techniques

- Laughter
- Mindfulness
- Breathing
- Gratitude
- Exercise
- Music/Art/Reading

Pioneers of Laughter Therapy and Research

- **Hans Selye:** studied General Adaptation
- **Norman Cousins:** wrote “Anatomy of an Illness”
- **Prof William F Fry:** “Father of Gelotologie”.
- **Dr. Lee Berk:** laughter studies improve immune function
- **Dr. Hunter (Patch) Adams:** founder of the Gesundheit Institute.
- **Dr. Madan Kataria:** started the first laughter club in 1995
- **Dr. Steve Wilson:** founder of World Laughter Tour

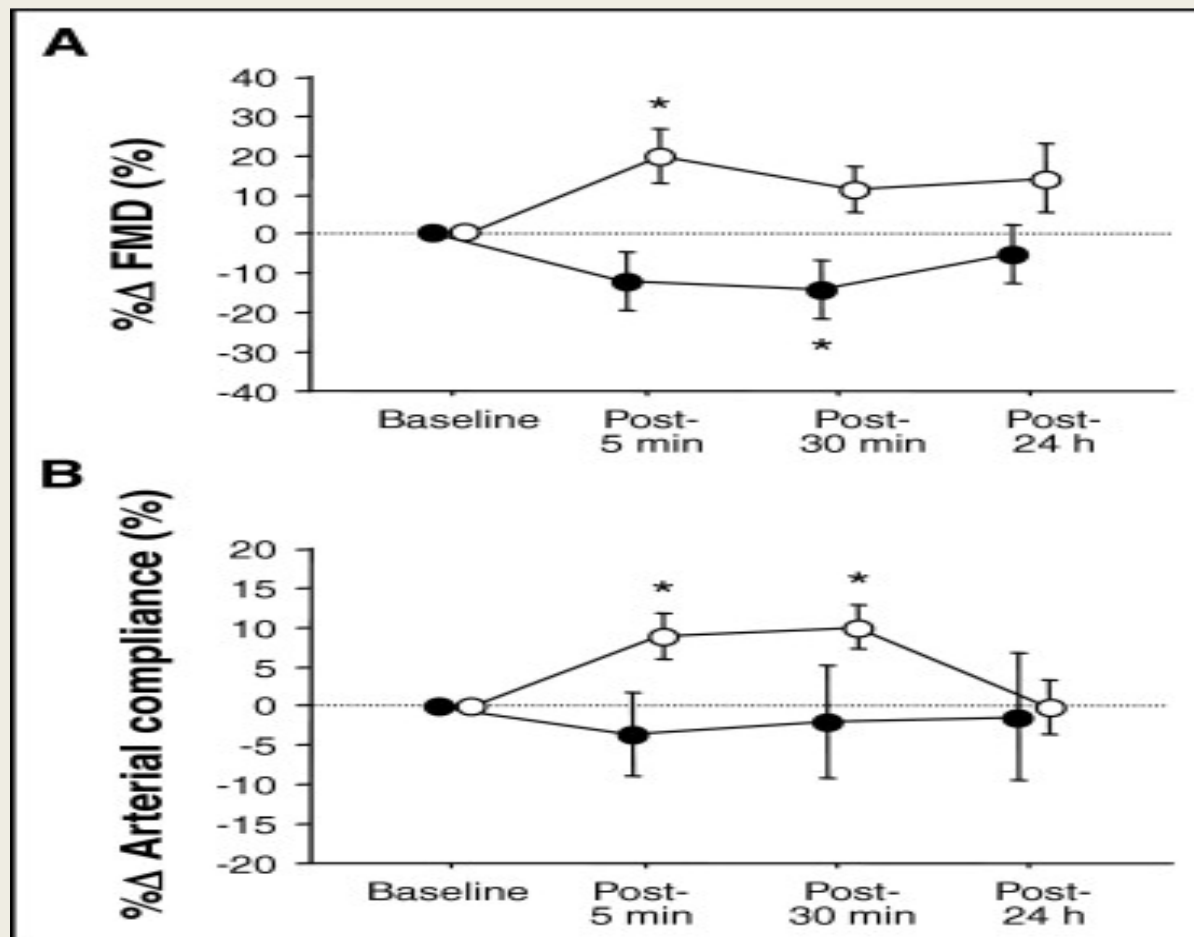
Benefits of laughter

- Helps to make social connections
- Reduces cortisol (stress reliever)
- Eases muscle tension
- Favorable effect on arterial stiffness
 - *Sugawara et al*
- Increases immune function
 - *Berk et al. Altern Ther Health Med 2001*
- Improves ventilation/oxidative status
- Reduces renin levels in DM
 - *Nasir et al. Intl J Mol Medicine 2005*
- Increases pain tolerance (endorphins)
 - *eCAM 2009;6:271-6; Dunbar et al. 2011 Proc R Soc*
- Burns calories
 - *Buchowski et al. Int J of Obesity 2007*

Laughter and vascular function

- Sugawara et al evaluated endothelial function and central artery compliance after watching comic movies vs documentary
- N-17 healthy adults watched 30 min of comedy
- Measured: brachial blood pressure and carotid artery compliance (with US)
- Result: carotid artery compliance increased after comedy and associated with baseline flow mediated dilation
- Effect lasted up to 24 hours

Sugawara et al
open circles: laughter
closed circles: documentary



Energy expenditure and laughter

- Buchowski et al. Int J of Obesity 2007
- Obj: measure energy expenditure and HR during genuine laughter
- Design: view film clips either intended to evoke laughter or unlikely to elicit laughter in a controlled room with indirect calorimeter.
- Conclusions: genuine voiced laughter caused a 10-20% increase of EE and HR
- 10-15 min of laughter per day could increase total EE by 10-40 kcal. (40-170kJ)

Optimism vs cynical hostility

Incident CHD and mortality

- Women's Health Initiative: N=97,000+
- Optimism: life orientation test
- Cynical hostility: Cook Medley questionnaire
- AHR (adjusted hazard ratio) reduced in optimists
 - 16% incident MI
 - 30% CHD related mortality
 - 14% all cause mortality

Cynical hostility associated with higher AHR for all cause and cancer related mortality

- Tindle et al. Circulation 2009;120:656-662

Weinberg et al. Australian study of workplace laughter “yoga” 2009



- “Laughter is the most inexpensive and most effective wonder drug. Laughter is a universal medicine.
 - Bertrand Russell, Nobel Prize Winner

