PC-FACS

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Feature Editor: Robert M. Arnold, MD, FAAHPM

PC-FACS (**F**ast **A**rticle **C**ritical **S**ummaries for **C**linicians in **P**alliative **C**are) *provides hospice and palliative care clinicians with concise summaries of the most important findings from more than 100 medical and scientific journals. If you have colleagues who would benefit from receiving PCFACS, please encourage them to join the AAHPM at aahpm.org. Comments from readers are welcomed at pcfacs@aahpm.org.*

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Although this issue of *PC-FACS* typically is offered as an April Fool's prank, this April, many of us were hardly in the mood for a joke. Now, we hope that laughter is still a best medicine and that these tricks give you a chance to treat yourselves. We present: summaries of some of the most comical findings from more than 75 journals.

Summaries With Commentaries

Use of the Word "Quiet" as a Coping Mechanism

Background. *It's oh so quiet. It's oh so still. And so peaceful until…*someone wishes you a quiet shift, and then the whole thing is a disaster.[1,2] Does uttering the word "quiet" negatively affect a health professional's shift?

Design and Participants. This prospective study in a large British teaching hospital's microbiology department determined the validity of the superstition that uttering the word "quiet" in a clinical setting increases workload. Two members of the microbiology team carried out the work on any given weekday and an on-call team member on any weekend day. Twenty-nine days in which staff were to say "Today will be a quiet day" and 32 days in which staff were to refrain from saying "quiet" in any context were randomly assigned. The primary outcome was mean overall workload: a composite of number of clinically related telephone calls, clinically significant results, or validated results processed by the on-duty microbiology team during a 24-hour period referred to collectively as "clinical episodes." A difference of 30 clinical episodes was considered as the margin of noninferiority. In post hoc analyses, workloads also were evaluated on full moons and Fridays that fell on the 13th.

Results. A mean 139 clinical episodes occurred on control days vs. 145 on days when "quiet" was uttered (difference=5.9; 95% CI=-13−25). The upper bound was less than the specified margin of 30, providing evidence for noninferiority. No evidence of workload difference was found within any measured component, whether considering unadjusted or adjusted analyses or looking at the subgroups of weekdays or weekends.

Commentary. When the day (or worse, the night) is NOT pounding us to dust, we can feel we're getting off easy. Sometimes, junior colleagues will note this fact, leading to threats of imposed palliative sedation to prevent ongoing reminders to the cosmos of our currently adequate quality of life. British microbiologists tempted fate by proactively declaring that days would be quiet and were chuffed things didn't go bollocks up.

This study showed a major design flaw. EVERYONE knows "the Q-word" only ruins already-good days. Exactly like the Krebs Cycle, the Q-word converts bliss to chaos and makes ATP (though I may not totally remember the Krebs Cycle). Without pre-existing joy, the word quiet has no power. Watch: quiet, QUIet,

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https://doi.org/10.1016/j.jpainsymman.2020.10.021

QUIET!!!!! Unless today is a good day, then better just hush and be on the safe side.

Bottom Line. Microbes have no ears, so you can say just about anything in front of them.

Reviewer. Christopher A. Jones, MD MBA, Duke University Health System, Glaring menacingly at those who utter "the Q-word" at work since July 2006

Source. Brookfield CR, Phillips PPJ, Shorten RJ. Q fever—the superstition of avoiding the word "quiet" as a coping mechanism: randomised controlled non-inferiority trial. *BMJ.* 2019;367:I6446.

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Why Hufflepuffs Wear Stethoscopes and Slytherins Carry Scalpels

Background. With often little experience or exposure, medical students are thrust fearfully into a choice between specialties that vary tremendously, and the wrong decision can lead to distress, burnout, dissatisfaction, or attrition.[1,2] Can Harry Potter help?

Design and Participants. This study used Harry Potter's wizarding school Hogwarts' four distinct houses (each valuing particular traits of morality that correspond with personality types) to test whether the percentage of medical residents who self-sorted into the different Hogwarts houses would vary depending on their chosen medical specialty. A web survey, designed by a second-year surgical resident, was sent out to surgical coordinators nationwide and to all residents of any specialty at Carolinas Medical Center. The questionnaire included questions addressing what specialty a resident practiced and which Hogwarts house they self-sorted themselves into. Comparisons were made using N-1 chi-squared tests.

Results. The survey was completed by 251 residents (55% female and 49% from surgical specialties) with a 13% response rate of surgical coordinator dissemination and a 43% resident response rate at Carolinas Medical Center. Residents were 28% interns, 30% second year, and 20% third year. Surgical specialties were found to have fewer self-sorted Hufflepuffs (P=0.002) and more Slytherins (P=0.0061) than nonsurgical specialties. General surgery had more Gryffindors (P=0.04) and fewer Hufflepuffs (P=0.0017), whereas orthopedic surgery had more Slytherins (P=0.0282). Pediatrics had fewer Gryffindors (P=0.0096) and more Hufflepuffs (P=0.0006). Obstetrics and gynecology had fewer Gryffindors (P=0.0082) and the highest percentage of Ravenclaws when compared to all other specialties (35% vs. 20%; P=0.1344). Family medicine had no self-proclaimed Slytherins.

Commentary. Move over enneagram and pipe down, Myers. You, too, Briggs. There's a new career guide in town: The Sorting Hat. Your Hogwarts house apparently determines your medical specialty, like obstetrics and gyneclawlogy. Unfortunately, this study relies on self-assessment of one's Hogwarts house, which has been shown to be not only unreliable but often quite troubling.[3] It also treats personality as destiny, forgetting that Harry Potter himself had what it takes to succeed in the most sinister of houses. "It's all here in your head," the Hat whispered to him during the Sorting Ceremony, "Slytherin will help you on the way to greatness." However, Harry resisted the serpentine temptation and chose the chivalry of Gryffindor, an option which the study's surgeon-specialist-authors conveniently don't want medical students to know about.

Bottom Line. Is it merely coincidence that, just like Tom Marvolo Riddle, the article's senior author—Dionisios Vrochides, Medical Doctor—contains all the letters of the Dark Lord's name?

Reviewer. Robert Macauley, MD, Professor of Hufflepuffiatrics, Oregon Health and Science University

Source. Baimas-George M, Vrochides D. The sorting hat of medicine: why Hufflepuffs wear stethoscopes and Slytherins carry scalpels. *J Surg Educ.* 2020;77(4):772-778. pii:S1931-7204(20)30004-0. https://doi.org/10.1016/j.jsurg.2020.01.004

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3. Horton H. People are freaking out over their results on the JK Rowling approved Harry Potter Sorting Hat test. *The Telegraph.* Published January 30, 2016.

Is Laughter the Best Medicine?

Background. Laughter has physical, emotional, and social benefits.[1–3] Can laughing so hard that it hurts treat pain?

Laughing Away the Pain

Design and Participants. This article reviewed studies that have been conducted on the association between

humor and sense of humor with pain. PubMed, Science Direct, and ProQuest were searched.

Results. The results of 41 studies were summarized and structured into three sections. For *experimental pain*, the findings support the idea that humorous distractions (like watching a comedy clip) increase pain tolerance; however, most of the studies indicate that nonhumorous distractions produce similar effects. Regarding *chronic pain*, humor has been studied as a way of coping with the pain and emotional distress produced by chronic pain conditions. The results of correlational studies show associations between the use of humor and variables like anxiety and catastrophizing. Concerning *pain in children*, similar findings to those described for the previous sections have been reported, with a notable presence of studies on clinic clown interventions, which promote emotional well-being among children and parents (although their pain reduction effectiveness is controversial).

Laughter-Inducing Therapies

Design and Participants. This article described the field of laughter-inducing therapies and estimated their effect on mental and physical health for a broad range of populations and conditions. The systematic review included intervention studies, one-session therapies, lab studies, and narrative reviews. The meta-analysis included randomized controlled trials or quasi-experimental studies assessing multisession laughter or humor therapies performed on people of any age, healthy or with a mental or physical condition. Studies were classified as using humor ("spontaneous" laughter) or not using humor ("simulated" laughter).

Results. Results suggested that simulated laughter is more effective than spontaneous laughter, and laughter-inducing therapies can improve depression. However, the overall study quality was low, with substantial risk of bias in all studies.

Commentary. Pain is no laughing matter, or is it? Many studies have demonstrated a close link between the opioid system and a person's degree of social connectedness.[4] The opioid system primarily reinforces social bonding and secondarily acts as an analgesic.[5] Laughter is first and foremost a means of social bonding and communication.[6] Positron emission tomography scanning with [11C]-carfentanil has demonstrated that social laughter increases opioid release in the anterior insula, anterior and posterior cingulate cortex, basal ganglia, and thalamus.[7] The degree of social laughter correlates with baseline mu opioid receptor (MOR) availability. Social touch also increases MOR availability in the same brain regions, which may explain the benefits of massage therapy.[8] Alternatively, the absence of laughter reflects impaired opioid release, and social isolation may cause opioid deprivation (the pain of social isolation).[9] Laughter may reflect endogenous opioid reserve, which in turn leads to pain relief. Laughter in this regard is a robust sign of opioid reserve and health.

Bottom Line. Laughter and humor may be the right analgesic for the physician to order.

Reviewer. Mellar P. Davis, MD FRCCP FAAHPM, Geisinger Health, Danville, PA

Sources. Pérez-Aranda A, Hofmann J, Feliu-Soler A, et al. Laughing away the pain: a narrative review of humour, sense of humour and pain. *Eur J Pain.* 2019;23(2):220–233.
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Grape or Grain but Never the Twain?

Background. Alcohol-induced hangover is characterized by a well-known complex of unpleasant physical and mental symptoms that occur when elevated blood alcohol concentrations return to

zero.[1] "Beer before wine, you'll be fine; wine before beer, have fear."

Design and Participants. This study investigated the influence of the combination and order of beer and wine consumption on hangover intensity. Participants were matched into triplets and randomly assigned according to age, gender, body composition, alcohol drinking habits, and hangover frequency. Group 1 consumed beer up to a breath alcohol concentration (BrAC) ≥0.05% and then wine to BrAC ≥0.11% (vice versa for group 2). Control-group subjects consumed either only beer or only wine. On a second intervention day (crossover) ≥1 week later, study-group subjects were switched to the opposite drinking order. Control-group subjects who drank only beer on the first intervention received only wine on the second study day (and vice versa). The primary endpoint was hangover severity assessed by Acute Hangover Scale (AHS) rating on the day following each intervention. Analysis included multivariate linear regression, ANOVA, and t-tests.

Results. Participants (group 1, n=31; group 2, n=31; controls, n=28) were age 19–40 years (mean=24) and 50% female. Neither type nor order of consumed alcoholic beverages affected hangover intensity (intra-individual AHS rating difference in group 1 was mean±SD=-0.32±7.63 and 0.36±6.82 in group 2 [P=0.71]). Perceived drunkenness and vomiting were the strongest predictors for hangover intensity. There was no between-group difference in blood or urine test results, either before or on the day following intervention (P>0.05).

Commentary. With what was likely great difficulty, 90 volunteers were recruited for a study to assess the validity of an old adage familiar to every college student. Does pregaming one's wine night with beer prevent hangovers? Does doing the opposite consign one to next-day regrets and misery? Participants were assigned to one of three groups, the beer-then-wine group, the wine-then-beer group, or the control group (either just wine or just beer). Using the AHS, three groups were assessed for hangover severity the day after consuming alcohol up to a BrAC of at least 0.11%. High AHS scores correlated to one's perceived inebriation, and to the symptom of vomiting. There was no difference between the participant groups in terms of hangover severity. Of course, additional research is needed to address the sister adage, "beer before liquor, never been sicker; liquor before beer, in the clear."

Bottom Line. The best way to avoid a hangover is not to drink too much of any sort of alcohol.

Reviewer. Erin Zahradnik, MD, University of Chicago, Chicago, IL

Source. Köchling J, Geis B, Wirth S, Hensel KO. Grape or grain but never the twain? A randomized controlled multi-arm matched-triplet crossover trial of beer and wine. *Am J Clin Nutr.* 2019;109(2):345–352.

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Gender Differences in College Student Perceptions of Instructor Humor

Background. A neutron ordered a drink at a bar, and the bartender replied, "For you, there's no charge."[1] Should college science instructors use humor during class?

Design and Participants. This study surveyed undergraduates across 25 different science courses about their perceptions of instructor humor during classes. The survey was designed based on specific research questions and the prior literature and was deployed using an online platform. Open-coding methods analyzed student responses to a question about why students appreciate humor. Multinomial regression identified whether there are gender differences in the extent to which funny, unfunny, and offensive humor influenced attention to course content, instructor relatability, and student sense of belonging. Logistic regression examined gender differences in what subjects students find funny or offensive when joked about by instructors.

Results. Students (N=1637) were 86% age 18–22, 61% female, 50% white/Caucasian, 15% Asian, and 58% biological sciences majors. About 99% of students reported that they appreciate instructor humor and that it positively changes the classroom atmosphere, improves student experiences, and enhances student-instructor relationships. Funny humor tends to increase student attention, instructor relatability, and sense of belonging (regardless of gender). Conversely, offensive humor tends to decrease relatability and sense of belonging. Students are most likely to find jokes funny if they are about college, science, or television, and most likely to be offended by jokes about social identities (particularly those that are historically or currently marginalized). Males are most likely to find jokes about social identities funny, while females are more likely to find jokes about social identities offensive.

Commentary. It is hard to know where to begin with this paper. First, the joke in the background section is only funny if you are a very strong believer in dad humor (in which case, a brain biopsy may be needed). Second, the study was done in Arizona, which, as all readers with a knowledge of "The Good Place"

know,[2] is not necessarily representative of the rest of the country. (Let the trolling begin.) Third, it found that males, the socially powerful group, were more likely than females to find jokes about social identity funny, which is sad and depressing. Fourth, this paper looks mostly at process outcomes (eg, whether students like humor) versus the outcomes that a teacher should care about, which is what promotes learning.

Bottom line. Sadly, this article revealed a kernel of truth about social power, which is not funny.

Reviewer. Robert Arnold, MD FAAHPM, University of Pittsburgh, Pittsburgh, PA

Source. Cooper KM, Hendrix T, Stephens MD, et al. To be funny or not to be funny: gender differences in student perceptions of instructor humor in college science courses. *PLoS One.* 2018;13(8):e0201258.

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Phineas T. Barnum, Gardner Q. Colton, and Painless Parker Were Kindred Princes of Humbug

Background. Humbug is a tricky business.[1–3] What, if anything, did PT Barnum, GQ Colton, and Painless Parker contribute to medical anesthesia?

Design and Participants. The first anesthetizer accused of humbug was probably physician Henry Hickman, who reported (1824) that CO_2 could render animals insensible of surgical pain. Perhaps the second was Horace Wells, who failed to impress an audience when demonstrating N_2O for dental anesthesia (1845). They announced that inhaling nervous system–depressing gases could avert surgery's torture and were misjudged as humbugs (their agents were too weak to convert skeptics). For decades, widespread N_2O shows featured a comical display of each participant reduced to "the disordered directives of his lower faculties and appetites," contributing toward associating the inebriants with irrelevant jocularity.

Results. Barnum called himself the Prince of Humbug, embracing humbug for entertainment but decrying medical humbug. Barnum and Colton entered the laughing gas show business in 1844. The Barnumesque nature of laughing gas exhibitions contributed to the negative reception of N_2O anesthesia as humbug. With Wells, Colton introduced inhaled N_2O for dental anesthesia. Possibly with Barnum's financing, Colton established a thriving dental practice (1863) featuring painless tooth extractions. Although about half a century apart, Barnum shared qualities with the dentist who called himself Painless Parker. Parker advocated dental hygiene and brought affordable care to countless patients, but many of his antics were deemed unprofessional and he used false advertising (with help from William Beebe [1890s], Barnum's former publicity agent). Parker acquired a circus in 1913, performing sideshow dental extractions. His favorite anesthetic was diluted cocaine.

Commentary. Nitrous oxide, known as "laughing gas," influenced the famous writer Franz Kafka for Zeigler wrote about nitrous oxide that "the physiological influence of nitrous oxide…accelerates molecular metamorphosis…."[4] I can see a little home brew goin' down in Kafka's pad. Before compressed gas cylinders, many dentists and surgeons had to "bake up" laughing gas for anesthetic purposes. A home-peddled precursor called "compound oxygen" had to be "doctored" to get the giggles—sometimes with explosive results. Nothing new to the meth labs.[4] Talk about going vinyl, an Australian beauty who snuggled into royalty, Dame Cicely Courtneidge, recorded "laughing gas" in 1931. Those royals do not know what to do with their time, do they? Fifteen minutes of fame and a lifetime of shame.[5] We have this saying about someone who "died laughing"…well in fact, Dr. Harold Foster wrote "Laughing Gas and Gags That Get a Grin," which was apparently a bit of a manual on the use of nitrous oxide. It was published on 1911. He received a letter from a grateful reader of his book that said "your great medicine…helped me wonderfully. My uncle took one bottle and I am his sole heir…." Nitrous oxide is widely available for you ravers and clubbers. However, for you "around the clock" users, be sure to take vitamin B12 because the consequences will be no laughing matter.[6]

Bottom Line. Nitrous oxide should cure a Scrooge, a novel approach to curing a curmudgeon's humbug.

Reviewer. Mellar P. Davis, MD FRCCP FAAHPM, Geisinger Health, Danville, PA

Source. Yang QH, Alston TA. Phineas T. Barnum, Gardner Q. Colton, and Painless Parker were kindred princes of humbug. *J Anesth Hist.* 2019;5(1):13–21.

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PC-FACS Feedback

We appreciate your feedback. Help us help you-send your comments to pc-facs@aahpm.org.

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