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ARTICLES

The Effects of Coffee and Napping on Nighttime Highway Driving. A Randomized Trial 785

P. Philip, J. Taillard, N. Moore, S. Delord, C. Valtat, P. Sagaspe, and B. Bioulac

The authors measured the nighttime highway driving performance of 12 young men immediately after coffee (containing 200 mg of caffeine), placebo (decaffeinated coffee containing 15 mg of caffeine), or a 30-minute nap. When daytime highway driving was used as a reference point for nighttime driving, 75% drove as well after coffee and 66% drove as well after a nap, but only 13% drove as well after placebo. Drinking coffee or napping significantly reduced nighttime highway driving impairment.

Summary for Patients I-11

The Effects of On-Duty Napping on Intern Sleep Time and Fatigue 792

V. Arora, C. Dunphy, V.Y. Chang, F. Ahmad, H.J. Humphrey, and D. Meltzer

During a 1-month inpatient rotation, interns followed a nap schedule for 2 weeks and a standard call schedule for 2 weeks. The nap schedule provided on-duty interns with coverage from midnight to 7:00 a.m. to finish their work and take a nap. While on the nap schedule, interns slept 41 minutes longer than on the standard call schedule. Despite the brevity of the naps, interns reported less overall fatigue than with the standard schedule. Coverage to allow a nap during an extended shift can increase sleep and decrease fatigue.

Summary for Patients I-20

Integrating Hospitals into Community Emergency Preparedness Planning 799

B.I. Braun, N.V. Wineman, N.L. Finn, J.A. Barbera, S.P. Schmaltz, and J.M. Loeb

The authors surveyed emergency preparedness linkages among hospitals, public health officials, and first responders. Although most hospitals reported substantial integration, the results suggest that these linkages require strengthening to allow optimum communication during a crisis.

An Evaluation of D-Dimer in the Diagnosis of Pulmonary Embolism. A Randomized Trial 812

C. Kearon, J.S. Ginsberg, J. Douketis, A.G. Turpie, S.M. Bates, A.Y. Lee, M.A. Crowther, J.I. Weitz, P. Brill-Edwards, P. Wells, D.R. Anderson, M.J. Kovacs, L.-A. Linkins, J.A. Julian,

L.R. Bonilla, and M. Gent, for the Canadian Pulmonary Embolism Diagnosis Study (CANPEDS) Group

In patients with a low clinical probability of pulmonary embolism who also have negative D-dimer test results, withholding additional diagnostic testing does not increase the frequency of venous thromboembolism during follow-up. Low clinical probability and negative D-dimer test results occur in 50% of outpatients and in 20% of inpatients who have suspected pulmonary embolism.

Psychosocial Factors and Coronary Calcium in Adults without Clinical Cardiovascular Disease 822

A.V. Diez Roux, N. Ranjit, L. Powell, S. Jackson, T.T. Lewis, S. Shea, and C. Wu

The authors examined the association between psychosocial factors and subclinical coronary atherosclerosis in a multiethnic, community-based sample of adults. The prevalence and extent of coronary calcification were essentially the same across the full range of anxiety and depressive symptom scores and chronic stress burden in both men and women. Depressive symptoms, anger, anxiety, and chronic stress burden were not associated with coronary calcification in asymptomatic adults.

Summary for Patients I-28

REVIEWS

Meta-Analysis: Accuracy of Quantitative Ultrasound for Identifying Patients with Osteoporosis 832

S. Nayak, I. Olkin, H. Liu, M. Grabe, M.K. Gould, I.E. Allen, D.K. Owens, and D.M. Bravata

Studies of its test performance show that at commonly used cutoff thresholds, calcaneal quantitative ultrasound does not definitively exclude or confirm osteoporosis as diagnosed by a gold standard test (dual-energy x-ray absorptiometry). Additional research is needed before recommending calcaneal quantitative ultrasound for evidence-based screening programs for osteoporosis.

Pathophysiology of Neurofibromatosis Type 1 842

A. Theos and B.R. Korf

Neurofibromatoses are inherited disorders, designated as neurofibromatosis type 1 (NF1), neurofibromatosis type 2, and schwannomatosis, that tend to result in benign tumors of the nerve sheath. Much has been learned about the pathophysiology of NF1, the most common of these disorders, since the *NF1* gene (which produces the NF1 phenotype) was identified in 1990. This review discusses the NF1 phenotype, the current understanding of basic

mechanisms, and the status of translation of this knowledge into clinical application.

ACADEMIA AND CLINIC

When Is Measuring Sensitivity and Specificity Sufficient To Evaluate a Diagnostic Test, and When Do We Need Randomized Trials? 850

S.J. Lord, L. Irwig, and R.J. Simes

The decision to adopt a new diagnostic test depends on whether it improves patient outcomes more than the test it might replace. When do sensitivity and specificity provide enough information to infer the new test's clinical value? The authors provide an approach to deciding whether to adopt a new diagnostic test on the basis of its test performance alone or wait for randomized trials of using the test in clinical practice.

EDITORIALS

Naps and Drugs To Combat Fatigue and Sleepiness 856

C. Guilleminault and K. Ramar

The United States is progressing toward a 24-hour society, and sleep deprivation is a growing problem in the workplace. What can hospital staff do about sleepiness? What are possible countermeasures, and how effective are they? In this issue, Philip and colleagues and Arora and coworkers evaluate the effects of naps on performance in real-life tasks.

Mind Your Heart 858

M.A. Whooley

In this issue, Diez Roux and colleagues examined the relationship between psychological factors (depressive symptoms, anxiety, anger, and chronic burden) and coronary artery calcium and found no association. Given the

substantial evidence supporting an association between psychological factors and coronary heart disease events, are these negative findings surprising? Do they contradict more than a century of epidemiologic observations? How do they improve our understanding of the link between psychological factors and coronary heart disease events?

AD LIBITUM

The Woman from County Meath 864

F. Brennan

LETTERS

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Problem Doctors: Is There a System-Level Solution? 861

D.M. Kuhn; M.S. Gold and K. Frost-Pineda; M.T. Donohoe; D.R. Gifford, R.S. Crausman, and B.W. McIntyre; L.L. Leape and J.A. Fromson

Corrections

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Correction: Regression of Cutaneous and Gastrointestinal Telangiectasia with Sirolimus and Aspirin in a Patient with Hereditary Hemorrhagic Telangiectasia 863

Cover photograph by Ajit Kashyap

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