Physical Rehabilitation and Information After ICU Discharge

Survivors of critical illness frequently experience a post-intensive care syndrome comprising physical, psychological, and cognitive disabilities. In this randomized clinical trial, Walsh and colleagues developed a rehabilitation strategy that used a dedicated therapist to increase the frequency and intensity of mobilization and exercise therapy, dietetic review and advice, and referral for other therapies using predefined triggers, together with providing greater illness-specific information. The intervention was delivered from intensive care unit (ICU) discharge until hospital discharge, and patients were followed for the next 12 months. Compared with existing care, the frequency and intensity of therapies was 2 to 3 times greater during post-ICU hospital stay, but a wide range of measures of physical function, quality of life, psychological morbidity, and self-reported symptoms were not different during follow-up and the intervention demonstrated no incremental cost-effectiveness. Despite this, patients reported greater satisfaction with their care. Cox and Hough provide an Invited Commentary.

Zoledronic Acid for Osteoporosis in Frail Elderly Women

More than 85% of institutionalized elderly persons have osteoporosis, yet most are untreated and have been excluded from the pivotal osteoporosis trials. Greenspan and colleagues conducted a 2-year randomized, double-blind, placebo-controlled clinical trial to determine the safety and impact on bone density of a single dose of zoledronic acid in this population. They randomized 181 frail women, including those with cognitive impairment, immobility, and multimorbidity. Treatment improved hip and spine bone density, but it was associated with a nonsignificant increase in fractures and mortality. These results emphasize the need for a fracture reduction study in this frail cohort. Lindsay provides an Invited Commentary.

Corticosteroid Injection Before Exercise Therapy for Knee OA

Osteoarthritis (OA) of the knee is the most frequent form of arthritis causing pain and disability. Combined nonpharmacological and pharmacological treatments are recommended as the optimal treatment approach. In this randomized clinical trial, Henriksen and colleagues compared intra-articular injections of corticosteroids with placebo injections given 2 weeks prior to a 12-week exercise therapy program in a sample of 100 patients with knee OA. Outcomes evaluated at both short-term and long-term follow-up visits included self-reported pain and other knee OA-related symptoms, physical function, and imaging and laboratory markers of inflammation. The researchers conclude that there were no significant differences between the groups in any of these outcomes at any follow-up visit.

Intra-aortic Balloon Pump Therapy for Acute MI

Intra-aortic balloon pump (IABP) therapy is a widely used intervention for acute myocardial infarction (MI) with shock. Guidelines, which previously strongly recommended it, have recently undergone substantial change. Ahmad and colleagues conducted separate random-effects meta-analyses of the randomized clinical trials (RCTs) and observational studies, covering over 17,000 patients. In the population studied by RCTs, IABP therapy did not improve mortality in acute MI. The observational studies, which studied 7-fold more patients, showed conflicting associations between IABP outcome and importance. Importantly, however, they also report details of baseline imbalance that when accounted for allow their findings to be reconciled with those of RCTs. Ross provides an Editor’s Note.
Research (continued)

Leisure Time Physical Activity and Mortality

The 2008 Physical Activity Guidelines for Americans recommended that adults engage in a minimum of 150 to 300 minutes of moderate-intensity or 75 to 150 minutes of vigorous-intensity physical activity weekly for substantial health benefits, but noted that the upper limit beyond which no additional benefits accrue was unknown. In this study, Arem and colleagues observed that the majority of the mortality benefit was among adults meeting the recommended volume of leisure-time physical activity. Still, mortality risk continued to decrease as adults who performed at least 3 times the recommended minimum, which is equivalent to running at 6 mph for 45 minutes, 3 times per week. These findings show that recommended amounts of exercise provide nearly all of the benefit for postponing mortality and that exercise levels beyond 3 times the recommended minimum were not associated with greater reductions in mortality risk. Manini provides an Invited Commentary.

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Effect of Abuse-Deterrent Oxycodone Introduction

In the second half of 2010, abuse-deterrent oxycodone hydrochloride resistant to crushing and dissolving was introduced, and propoxyphene was withdrawn owing to concerns of cardiac toxic effects. Larochelle and colleagues examined trends in opioid dispensing and overdose in a cohort of 31.3 million commercially insured adults between 2003 and 2012. Two years after the opioid market changes, total opioid dispensing decreased by 19%, and overdose due to prescription opioids decreased by 20%. Over the same time frame, there was an acceleration of the previously increasing rate of heroin overdose that did not reach statistical significance. Pharmaceutical market interventions may be a viable option toward reducing prescription opioid abuse; however, they cannot cure existing opioid addiction. Kunins provides an Invited Commentary.

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Heart Failure Epidemic in Olmsted County, Minnesota

Contemporary data on the magnitude and implications of heart failure are lacking. Analyzing temporal trends in Olmsted County, Minnesota, (2000-2010), Gerber and colleagues demonstrate a substantial decline in heart failure incidence. Decline was greater for heart failure with reduced ejection fraction (45%) than for heart failure with preserved ejection fraction (28%). The survival of patients with heart failure did not change appreciably, nor did overall hospitalization rates, but a transition occurred in the causes of hospitalizations toward noncardiovascular diseases, likely reflecting the increasing comorbidity burden in this elderly population of patients. Walsh provides an Invited Commentary.

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In-Hospital CPR and Survival in Adults Receiving Dialysis

Understanding cardiopulmonary resuscitation (CPR) practices and outcomes can help to support advance care planning in patients receiving maintenance dialysis. Using registry data and linked Medicare claims, Wong and colleagues conducted a retrospective cohort study to characterize patterns and outcomes of in-hospital CPR among a nationally representative cohort of Medicare beneficiaries receiving maintenance dialysis. They found that in this population, compared with other nondialysis populations, in-hospital CPR use was nearly 20 times greater and long-term survival after an episode of CPR was more limited. These findings highlight the importance of advance care planning in patients receiving maintenance dialysis. Wilhelm-Leen and Chertow provide an Invited Commentary.

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