The CT scans ordered in 2007 alone are projected to cause 29,000 cancers and an anticipated 15,000 related deaths.

**Background:** Physicians and practitioners order computerized tomographic (CT) scans without a clear sense of what the clinical impact will mean for their patients.

**Objective:** To determine the impact of CT scan use in 1 year on late development of cancer.

**Design/Methods:** The authors estimated CT scan use frequency using data from a large commercial insurance database, Medicare claims data, and IMV Medical Information Division survey data. Given their effects on cancer risk, the authors adjusted for age, sex, and life expectancy. Using age, scan type, and radiation dose, they determined organ-specific doses of radiation. Known prediction models of cancer based on radiation doses were used to estimate cancer frequency for each body part.

**Results:** The authors estimated that there were 72 million CT scans performed in 2007. Excluding scans done in patients who already had cancer and those performed in the last 5 years of life, the authors determined CT scans done in 2007 would cause about 29,000 excess cancers. These cancers will appear in the next 20 to 30 years and by the authors' estimates, at a 50% mortality rate will cause approximately 15,000 deaths. Based on their data regarding CT scan type, radiation dose, and life expectancy, lung cancer was the most commonly projected radiation-related cancer, followed by colon cancer and leukemia. Abdomen and pelvis scans were the largest source of cancer risk, followed by head and chest scans. Given the latency of CT scans in causing cancers, one third of the projected cancers were in people who were aged 35 to 54 years while getting their scans, and 66% were women.

**Conclusions:** The authors highlight the potential risks of CT scan overuse in the frequency of new cancers. Young, female patients, and multiple abdominal CT scans carry the largest risk.

**Reviewer's Comments:** This article will be shocking to anyone who has ever reassured a patient about the safety of CT scans. CT scans were designed to be a low-risk intervention compared to laparotomy or other surgical exploration, but this paper demonstrates the cancer risks we have incurred through our comfort with CT scan ordering. Thankfully this article offers a direction for us to target our interventions at reducing cancer risk. Efforts should be made to reduce radiation doses of highly used scans and to target reductions in high-risk populations -- women and those aged 35 to 54 years. (Reviewer-Michelle Mourad, MD).

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Keywords: Cancer, Radiology, Patient Safety

Print Tag: Refer to original journal article
New Guidelines for Catheter-Associated Urinary Tract Infections Are Here

Diagnosis, Prevention, and Treatment of Catheter-Associated Urinary Tract Infection in Adults: 2009 International Clinical Practice Guidelines From the Infectious Diseases Society of America.

Hooton TM, Bradley SF, et al:

Clin Infect Dis 2010; 50 (March 1): 625-663

The IDSA has updated their guidelines for the management of catheter-associated urinary tract infections. Hospital-based providers should use these to optimize management of this common problem.

**Background:** Catheter-associated urinary tract infections (CA-UTI) are one of the most common health care-associated infections, cause substantial morbidity and mortality, and are often mismanaged.

**Objective:** To establish updated guidelines for the diagnosis, prevention, and treatment of catheter-associated urinary tract infections.

**Design:** Guideline development by an expert panel of the Infectious Diseases Society of America (IDSA).

**Methods:** The expert panel reviewed the literature regarding CA-UTIs and through a consensus process, established best-practice guidelines.

**Results:** The expert panel outlined 47 guidelines concerning diagnosis, prevention, and treatment. Diagnosis of a true CA-UTI must include both of the following: (1) signs/symptoms of a UTI (fever, confusion, lethargy, flank pain, etc.) and (2) growth of ≥10³ colony forming units of a pathogenic organism. Most patients with chronic (>2 weeks) catheters will have bacteriuria (bacterial growth), but this does not indicate infection and should not be treated as such. In addition, many patients with catheters will have pyuria (white blood cells on urinalysis), but this does not mean they have an infection, as presence of pyuria does not indicate infection. Note, absence of pyuria argues against the presence of a true CA-UTI. Clinicians should get a urine culture before starting antibiotics; in patients who have had a catheter for >2 weeks, providers should change the Foley and get a culture from the new catheter. Changing the catheter may help symptoms improve faster and may reduce future infections. For treatment, 7 days is adequate for CA-UTI when there is prompt resolution of symptoms; this can be extended to 10 to 14 days if patients are slow to respond.

**Conclusions:** Clinicians should be aware of these updated guidelines regarding CA-UTI and apply them to their practice.

**Reviewer’s Comments:** A robust and evidence-based guideline helps us in the diagnosis, prevention, and treatment of CA-UTIs, a very common problem faced by inpatient providers. Many of the recommendations (most not listed above) are specific and catheter-related -- if you are involved in reducing CA-UTIs at your institution, you definitely should use these guidelines. In clinical practice, these are helpful to clearly define what it takes to diagnose a true infection -- signs and symptoms of infection plus bacteria. Note, pyuria and/or bacteriuria alone are not indications to treat. These guidelines also clearly define 7 days as the optimal duration of therapy for most patients with CA-UTI. (Reviewer-Bradley A. Sharpe, MD).

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Keywords: Catheter-Associated Bacteriuria, Catheter-Associated Urinary Tract Infection, Guidelines

Print Tag: Refer to original journal article
In this study, patients with acute pulmonary embolism and concomitant deep venous thrombosis (DVT) had twice the risk of 90-day mortality compared to those without concomitant DVT.

**Background:** Concomitant deep vein thrombosis (DVT) is known to be prevalent in patients with acute pulmonary embolism (PE). Association between DVT in the setting of acute PE and adverse patient outcomes has not been consistently demonstrated.

**Objective:** To examine the association between concomitant DVT and mortality risk in patients with acute PE.

**Design:** Prospective cohort study; validation study with large multicenter independent cohort (Registro Informatizado de la Enfermedad Tromboembólica).

**Participants/Methods:** All consecutive adults presenting to the emergency department of a single medical center in Spain with acute or worsening dyspnea or chest pain who were evaluated for possible PE between 2003 and 2007 were eligible. PE was diagnosed by high probability ventilation-perfusion (V/Q) scan or chest computerized tomography (CT); all patients underwent bilateral lower extremity compression ultrasonography within 48 hours of PE diagnosis. Those with history of DVT/PE or those who did not undergo ultrasound were excluded. Primary outcome was all-cause 90-day mortality; PE-specific mortality and recurrent symptomatic PE/DVT were secondary outcomes. All patients received standard anticoagulant therapy and treatment adequacy was monitored. Those with contraindication to anticoagulation had inferior vena cava filters placed. Patients with PE and shock received thrombolytics.

**Results:** 707 patients with PE were enrolled (316 men and 391 women). Patients with concomitant DVT were more likely to be men with cancer and less likely to present with syncope or chest pain. In total, 3% of patients in each group received thrombolytics. Suboptimal anticoagulation rates were similar in the groups. Overall, 11% of patients died during 3-month follow-up and 4% died of definite or possible PE. Those with concomitant DVT had significantly higher cumulative mortality than those without (15% with DVT vs 6% without). The most common cause of death was initial or recurrent PE. Concomitant DVT independently predicted overall mortality (adjusted hazard ratio [HR], 2.1) and PE-related death (HR, 4.3). Five percent had recurrent DVT/PE and 3% had recurrent PE. Cumulative incidence of recurrent DVT/PE was significantly higher in those with DVT. Concomitant DVT predicted recurrent DVT/PE. In the external validation study, mortality and recurrence rates were similar although associations were not as strong.

**Conclusions:** Patients with acute PE and concomitant DVT had a higher short-term risk for all-cause (2x) and PE-specific mortality (4x) and recurrent DVT/PE (4x). Suboptimal anticoagulation was not associated with outcomes studied.

**Reviewer's Comments:** This is a large prospective single-site study of relevance to hospitalists as results suggest that concomitant DVT may have prognostic implications in PE. Evaluation for DVT at PE presentation may help stratify which patients require inpatient therapy or more intensive treatment and follow-up. Interestingly, investigators considered those with inconclusive V/Q or negative CTs with proximal DVT to have PE, which may skew results. Multicenter prospective studies are warranted. (Reviewer-Anneliese M. Schleyer, MD).

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Keywords: Deep Vein Thrombosis, Pulmonary Embolism, Mortality Risk

Print Tag: Refer to original journal article
In patients with pulmonary embolism and indications for thrombolysis, a lower dose regimen (50 mg/2 hours) of recombinant tissue-type plasminogen activator has similar efficacy and maybe lower bleeding when compared to a higher dose regimen (100 mg/2 hours), especially in patients <65 kg.

**Background:** Recombinant tissue-type plasminogen activator (rt-PA) is indicated in the treatment of acute pulmonary embolism (PE) with hemodynamic instability and, some would argue, in the setting of right ventricular (RV) strain. The optimal dose of rt-PA in this setting has been poorly studied. **Objective:** To determine the efficacy and safety of 50 mg/2 hour rt-PA regimen compared with the standard dose of 100 mg/2 hours in acute PE. **Design:** Prospective randomized multicenter trial. **Participants/Methods:** Adult patients with acute PE with 1 of the 2 following indications for thrombolysis were enrolled: (1) PE with hemodynamic instability or (2) massive pulmonary artery obstruction (>2 lobes by CT or >7 segments by V/Q scan) plus RV dysfunction and pulmonary hypertension on echocardiogram. Patients were randomized to receive either 50 mg/2 hours or 100 mg/2 hours with appropriate adjunctive low-molecular weight heparin and subsequent warfarin. Follow-up included repeat CT scan, V/Q scan, and echocardiography at 24 hours and 14 days as well as clinical measures. **Results:** 118 patients were randomized -- approximately 30% presented with hemodynamic instability and the other 70% with massive obstruction and RV dysfunction and pulmonary hypertension. Substantial improvements in CT scans, V/Q scans, and echocardiograms were seen in both groups and were not significantly different. Total bleeding was higher in the 100 mg rt-PA group compared with the 50 mg rt-PA group but this was not statistically significant (32% vs 17%; *P* =0.084). There was no difference between the 2 groups in recurrent PE or death. All of these outcomes were true for both the hemodynamically unstable and the stable group. Notably, when subdivided by body weight, total bleeding was substantially higher in the 100 mg rt-PA group, especially in patients weighing <65 kg (14.8% vs 41.2%; *P* =0.049). **Conclusions:** In patients with PE and hemodynamic instability or evidence of massive obstruction and pulmonary hypertension, a lower dose regimen of 50 mg/2 hours had similar efficacy in short-term markers of efficacy when compared to the standard dose of 100 mg/2 hours and had less bleeding, especially in patients with lower body mass. **Reviewer's Comments:** This is a small study but impressive given the difficulties in enrolling patients in studies of thrombolysis in PE. Regardless of your thoughts on giving rt-PA to patients with PE without hemodynamic instability (I am not a believer), there are some lessons here. I don't think we just give everyone we are lysing for PE this lower dose. But, if you have a thin and frail patient, especially <65 kg, you should consider giving the lower dose -- it probably has similar efficacy to the higher dose and may have less bleeding. (Reviewer-Bradley A. Sharpe, MD).

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Keywords: Pulmonary Embolism, Thrombolysis, Recombinant Tissue-Type Plasminogen Activator

Print Tag: Refer to original journal article
Adding an angiotensin receptor blocker to an angiotensin-converting enzyme inhibitor in the setting of stable ischemic heart disease and preserved ejection fraction generates no additional benefit and may cause harm.

**Background:** The benefits of adding an angiotensin-converting enzyme (ACE) inhibitor (ACEI) or angiotensin II-receptor blocker (ARB) to standard medical therapy in patients with ischemic heart disease (IHD) and ventricular dysfunction are well established, but the outcomes for patients with preserved ventricular function are unknown.

**Objective:** To review the relative benefits and harms of adding an ACEI, ARB, or both to standard medical therapy in patients with stable IHD and preserved ejection fraction (EF).

**Design:** Systematic review/meta-analysis.

**Methods:** Articles were identified through database, manual, and citation searches. Investigators reviewed each, abstracted data, and rated quality. Where ≥2 studies were available, meta-analyses were performed to yield pooled relative risks (RR).

**Participants:** Randomized controlled trials of adult patients in whom ACEI, ARB, or both were added to standard medical therapy for stable IHD. Studies included at least 75 patients, followed patients for ≥6 months, and reported at least 1 clinical outcome.

**Results:** 8 studies met inclusion criteria; only 1 evaluated an ARB in isolation. Compared with placebo, ACEIs reduced risk of total and cardiovascular mortality (RR, 0.87/RR, 0.83), nonfatal MI (RR, 0.83), stroke (RR, 0.78), and the composite end point (RR, 0.85). ACEI decreased risk in patients not on antiplatelet therapy and not revascularized; no differences were seen with beta-blockers or lipid-lowering agents. In a single study versus placebo, ARBs decreased risk for stroke (RR, 0.78) and the composite end point (RR, 0.88) and did not increase risk for total or cardiovascular mortality. In a trial combining ACE and ARB therapy, there was no difference between combination therapy and ACEI alone. Concerning harms, study withdrawal was more common in patients on ACEIs (RR, 2.3), including hypotension (RR, 1.24) and cough (RR, 1.67). Hypotension risk was not increased. Combination therapy, as compared with ACEI alone, resulted in more study discontinuations and hypotension ($P <0.001$) and syncope ($P =0.03$).

**Conclusions:** In patients with stable IHD and normal ventricular function, quality studies suggest that ACEIs reduce total and cardiovascular mortality, nonfatal MI, and stroke. Data for ARBs are insufficient to fully gauge effects, though in a single study against placebo, they decreased risk of stroke and the composite end point. Combination ACEI and ARB therapy increased adverse events without a benefit beyond ACEI alone.

**Reviewer’s Comments:** This study broadens our list of indications for ACEI use in cardiac disease beyond MI and congestive heart failure (CHF) to those with stable IHD and no CHF. Limitations of this study include concerns about generalizability and a scarcity of data on ARBs alone or in combination with ACEI (though for the latter, the single study cited should dissuade us from combination therapy). Hospitalists may frequently be in a position to start an ACEI in patients with stable IHD and should not miss this opportunity to improve morbidity and mortality. (Reviewer-Jennifer Best, MD).

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**Keywords:** Ischemic Heart Disease, ACE Inhibition, ARB, Mortality, Morbidity

**Print Tag:** Refer to original journal article
Probiotics May Prevent VAP

Impact of the Administration of Probiotics on the Incidence of Ventilator-Associated Pneumonia: A Meta-Analysis of Randomized Controlled Trials.

Siempos II, Ntaidou TK, Falagas ME:

Crit Care Med 2010; 38 (March): 954-962

Probiotics may be an effective means to prevent ventilator-associated pneumonia, but more research is needed.

Background: Probiotics are commercially available microorganisms that can potentially decrease infections by competing with pathogenic organisms or through other immunomodulatory properties.

Objective: To determine whether probiotics can prevent ventilator-associated pneumonia (VAP).

Design: Meta-analysis of randomized controlled trials (RCTs).

Methods: Authors identified all RCTs comparing a probiotic regimen to placebo in mechanically ventilated patients. VAP was defined by clinical, laboratory, and imaging findings.

Results: 5 RCTs were identified involving 689 patients; their mean sample size was 159 and most were methodologically sound with high Jadad scores. In 3 of the studies, the probiotic was the same, Synbiotic 2000 FORTE (Medipharm), a combination of different lactic acid bacteria with probiotics. The other 2 studied Lactobacillus species. The overall incidence of VAP was significantly lower in patients treated with probiotics when compared to placebo (OR, 0.55; 95% CI, 0.31 to 0.98). In subgroup analyses, these results did not persist after removal of 1 study that had very high VAP rates. There was a trend toward lower mortality and ICU length of stay with the use of probiotics but these were not statistically significant. There was no difference in diarrhea or other probiotic-induced disease in the 2 groups.

Conclusions: A meta-analysis of 5 studies reveals a potential decrease in rates of VAP in patients treated with probiotics when compared to placebo. Given small sample sizes, variations in VAP rates, and different probiotic regimens, further research is needed.

Reviewer's Comments: Yogurt for everyone intubated? Probably not yet. But, I am intrigued by the results -- the odds ratio was 0.55, a 45% reduction in VAP. The absolute risk reduction, not presented in the paper, was actually 12.4% (22.9% to 10.5%) resulting in a number needed to treat of 8 (you'd need to treat 8 patients with probiotics to prevent 1 episode of VAP). Given the known mortality, morbidity, and cost associated with VAP (and the low cost of probiotics), this would be a substantial finding. These results are intriguing enough to stimulate larger, more rigorous studies. (Reviewer-Bradley A. Sharpe, MD).

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Keywords: Ventilator-Associated Pneumonia, Probiotics, Meta-Analysis

Print Tag: Refer to original journal article
Early cholecystectomy improves length of stay in mild gallstone pancreatitis without increasing poor outcomes.

**Background:** Most physicians will agree that patients with gallstone pancreatitis should have a cholecystectomy to prevent recurrence of their pancreatitis, but the timing of this surgery has been called into question. Standard practice still suggests that surgeons wait until the resolution of abdominal pain and abnormal liver function tests before proceeding with surgery, but the effects on perioperative outcomes are unclear.

**Objective:** To determine the effect of surgery within 48 hours for mild gallstone pancreatitis on both patient length of stay and on perioperative outcomes.

**Participants/Methods:** 50 consecutive patients with mild gallstone pancreatitis, defined as a Ranson score ≤3, were randomized -- 25 to early laparoscopic cholecystectomy within 48 hours of admission versus a control laparoscopic cholecystectomy group. The authors measured differences in length of stay as their primary outcome, but also looked at conversion to open cholecystectomy, perioperative complications, and need for endoscopic retrograde cholangiopancreatography (ERCP).

**Results:** The average time from admission to operation was 33 hours in the early intervention group and 78 hours in the control group, which resulted in a median length of stay difference of 3 versus 4 days for the intervention and control group, respectively. There was no difference in the conversion to an open procedure, no difference in perioperative complications, and no difference in need for postoperative ERCP.

**Conclusions:** In patients with mild gallstone pancreatitis, cholecystectomy within 48 hours improved length of stay with no resulting difference in rates of conversion to an open procedure, complications, or need for ERCP.

**Reviewer's Comments:** This article builds on previous data showing that cholecystectomy for mild gallstone pancreatitis could safely be performed with a reassuring trend in liver function tests and improvements in abdominal pain. This small but significant study takes the next step and achieves differences in patient length of stay without compromising outcomes. With bundled payments on the horizon, it is this kind of comparative effectiveness research that will allow us to provide high quality, but cost effective treatments to our patients. (Reviewer-Michelle Mourad, MD).

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Keywords: Surgery, Pancreatitis, Length of Stay, Outcomes

Print Tag: Refer to original journal article
Pneumothorax Following Thoracentesis: A Systematic Review and Meta-analysis.

Gordon CE, Feller-Kopman, D, et al:

Arch Intern Med 2010; 170 (February 22): 332-339

Background: Pneumothorax (PTX) attributable to thoracentesis results in secondary procedures, increased cost, and increased length of hospital stay. Published rates of PTX following thoracentesis vary widely. It is not known how ultrasound guidance or other procedural or patient factors modify this risk.

Objective: To determine the mean PTX rate following thoracentesis and to identify patient or procedural factors that modify this risk.

Design: Systematic review/meta-analysis.

Methods: Articles were identified through database and manual searches. Investigators reviewed each, abstracted data, and rated quality. Subgroups and definitions were determined after review of the data and the literature. Meta-analyses were performed, as was testing for heterogeneity. Eligible studies documented performance of chest x-ray >95% of the time; provided diagnostic criteria for post-thoracentesis PTX; provided patient selection criteria; identified the procedural operator; and enrolled ≥10 patients.

Results: 24 studies met inclusion criteria. The overall PTX rate was 6.0% (349 events/6605 thoracenteses), resulting in chest tube insertion in 34.1% of occurrences. Significantly decreased PTX rates were seen with ultrasound guidance as compared with unguided attempts (4.0% vs 9.3%; \( P =0.001 \)). PTX rates were lower with experienced operators (3.9% vs 8.5%; \( P =0.04 \)), though with direct comparison, this was not significant. In direct comparison studies, PTX rates were higher with therapeutic, rather than diagnostic, thoracentesis (OR, 2.6); larger needles or catheters (OR, 2.5); development of any periprocedural symptom (OR, 26.6); or witnessed air aspiration (OR, 104). Catheter use and an increased number of needle passes also increased risk in a nonsignificant fashion. Patient factors were less reliably associated with PTX rate, though mechanical ventilation nonsignificantly increased risk.

Conclusions: Approximately 6.0% of thoracenteses result in PTX, which increases morbidity and mortality. In this study, real-time ultrasound guidance was most strongly associated with low PTX rates. Results may have been confounded by use of ultrasound for riskier procedures or sicker patients, resulting in false-negative associations. Few studies reported direct comparisons or data for risk factors such as experience level, needle passes, and effusion size.

Reviewer's Comments: Respect thoracentesis. It can be risky. Though a generation of practicing hospitalists was never trained to do so, we should be using ultrasound guidance whenever possible. Consider continuing medical education to develop this skill or referral to radiology or another experienced operator trained in this technique. Furthermore, operators with experience should be supervising trainees and encouraging programmatic or hospital policies to this effect; this increases comfort and may decrease risk. Future randomized trials elucidating independent risk factors will be important, but this study provides ample food for thought. (Reviewer-Jennifer Best, MD).

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Keywords: Pneumothorax, Thoracentesis, Procedural Complications

Print Tag: Refer to original journal article
Physicians in the United States are working 4 hours fewer per week compared to 10 years ago and this decline correlates with decreases in physician fees.

**Background:** Trends in hours worked by physicians in the United States have not been examined for many years and may have implications for potential future physician shortages.

**Objective:** To describe trends in physician work hours in the U.S. and to explore a correlation with physician fees.

**Design:** Retrospective database analysis.

**Participants/Methods:** The U.S. Census Bureau administers the Current Population Survey (CPS), a survey about demographics and employment information, monthly to a random sampling of households in the U.S. Data for individuals identified as "physician" or "surgeon" were collected from 1976 to 2008. All respondents who were aged <35 years and practiced in a hospital were considered residents (house staff). Estimates in physician fees were based on mean Medicare and private insurance payments.

**Results:** A final sample of 116,733 surveys was available from 27,874 households. Mean hours worked per week decreased significantly over the study period. Hours per week remained relatively stable at approximately 55 hours from 1977 to 1997 but gradually declined between 1997 and 2007 to 51 hours per week (7.2% decrease; \( P < 0.001 \)). Resident physicians reported a larger decrease in hours worked compared to nonresident physicians. Notably, the decrease in hours worked in nonresident physicians was seen in all groups -- young, old, male, female, hospital and non-hospital, self-employed, and non-self-employed. The decline in hours worked correlated closely with a decline in physician fees (inflation-adjusted fees decreased by approximately 25% between 1995 and 2006). Areas of the country with the largest decrease in physician fees saw the largest decrease in hours worked.

**Conclusions:** A steady decline in physician work hours over the last 10 years correlates with decreases in physician fees. The full explanation for the shrinking work week is unclear but this has implications for estimating the future physician work force.

**Reviewer’s Comments:** The study is limited given the large database -- there is an inability to identify physician specialty and the inability to determine a true causal relationship between hours worked and fees. Yet, the data seem clear. Physicians are working fewer hours and getting paid less. As we face physician shortages in the future, 4 hours per week per physician matter, as the authors highlight. If the physician workforce is 630,000 (2007), 4 hours fewer per week per MD is equivalent to a loss of 36,000 physicians. This doesn’t mean you should work more hours, but we should all be aware of this trend and further research should examine the causal factors. (Reviewer-Bradley A. Sharpe, MD).
Combined aspirin-extended release dipyridamole is as effective as clopidogrel for secondary stroke prevention after an acute ischemic stroke.

**Background:** Risk for recurrent stroke is at its highest in the 10 days following an initial stroke. This makes the initiation of secondary preventative therapies like aspirin-extended release dipyridamole (Asp/ER-DP) combination important in the immediate post-stroke period. Asp/ER-DP was found to have little difference in treatment outcomes compared to clopidogrel for secondary prevention in an earlier trial, but that trial focused on all patients started on preventative therapy after 120 days rather than in the immediate post-stroke period.

**Objective:** To determine the effect of secondary prevention with Asp/ER-DP versus clopidogrel started within 72 hours on functional status and recurrent stroke.

**Methods:** The authors took a cohort of the initial PRoFESS trial consisting of 1360 patients who were started on secondary prevention with Asp/ER-DP or clopidogrel within 72 hours of acute ischemic stroke. They looked at the primary outcome of functional status at 30 days as well as recurrent stroke, MI, death, or composite vascular events at multiple time points post-stroke.

**Results:** The average time to initiation of secondary prevention was 58 hours. After adjustment for age, blood pressure, and disease severity there was no difference in primary outcome of functional status at 30 days. Similarly, secondary outcomes of MI, recurrent stroke, combined vascular events, death, or severe bleeding did not differ between the 2 groups. There was a small trend toward a decreased risk of recurrent stroke and a decreased risk of combined vascular events in both groups. At 90 days, however, more people had discontinued Asp/ER-DP compared to clopidogrel -- mostly due to gastrointestinal intolerance.

**Conclusions:** After acute ischemic stroke, secondary prevention with Asp/ER-DP versus clopidogrel showed similar effects on functional status, cardiovascular outcomes, and adverse bleeding events.

**Reviewer’s Comments:** This post-hoc analysis of the larger PRoFESS trial aims to determine whether Asp/ER-DP or clopidogrel offers more benefits for functional status and secondary stroke prevention following acute stroke. Differing from the larger trial, these patients were all started on secondary stroke prevention. The results of this trial are similar to those in the larger trial -- basically no difference in functional outcomes, MI, recurrent stroke, death, or combined outcomes. The main difference comes in the risks of bleeding from the variable antiplatelet therapy. In the larger trial, Asp/ER-DP was associated with an increased risk of subsequent hemorrhagic stroke, but the combined risk of ischemic stroke and hemorrhagic stroke was similar with clopidogrel. This study is interesting in that it highlights that we need not treat secondary prevention for acute stroke any differently than remote stroke, but other than that, it is unlikely to affect our choice in a secondary stroke prevention agent...whichever one that may be. (Reviewer-Michelle Mourad, MD).

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Keywords: Acute Ischemic Stroke, Secondary Prevention, Functional Status

Print Tag: Refer to original journal article