Coronary Calcium: A Window Into Safety & Treatment

US Air Force High Risk Occupational Medical Standards

Joseph Sky, MD, FACC
Space Program starting in 1960s to current

Evidence Based Medicine  Occupation Safety

Observational data  Clinical Outcomes


All call for: Reliable high yield predictors of heart disease

2. None of the tests perform well (low risk population) abnormal results on any one of the three correlated with events.


4. CAC detection is the best test for screening for CAD in a low clinical risk high occupational risk population.
Calcium Score

- NASA astronauts
- Pilots (with an abnormal non-invasive study)
- High risks occupations: Firefighters, special forces, anyone serving in remote combat areas
- Others: Retirees, senior members
- Walter Reed
Impact of Statins on Cardiovascular Outcomes Following Coronary Artery Calcium Scoring

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CONCLUSIONS In a largescale cohort without baseline ASCVD, the presence and severity of CAC identified patients most likely to benefit from statins for the primary prevention of cardiovascular diseases. (J Am Coll Cardiol 2018;■:■-■) © 2018 by the American College of Cardiology Foundation.
Patients with CAC who were prescribed a statin had a significantly reduced risk of MACE (aSHR: 0.76; 95% CI: 0.60 to 0.95; p = 0.015), whereas patients without CAC had no associated MACE reduction (aSHR: 1.00; 95% CI: 0.79 to 1.27; p = 0.99). p = 0.097 for interaction between statin treatment and CAC presence. aSHR = adjusted subhazard ratio; CAC = coronary artery calcium; CI = confidence interval; MACE = major adverse cardiovascular event(s).
Bomber pilot helps airliner during emergency

By Thom Patterson, CNN

Updated 3:48 PM ET, Wed June 4, 2014

Hero: Capt. Mark Gongol, 19th Air Support Operations Squadron assistant director of operations at Fort Carson, helped land a commercial 737 Dec. 30 when the pilot had a medical emergency.

Does anyone know how to fly a plane?! Vacationing US Air Force bomber pilot helps land Boeing 737 with 160 aboard after pilot has a heart attack

- Air Force Captain Mike Gongol answered the PA call to fly United Flight 1637
- Pilot fell ill 30 minutes into the Des Moines to Denver flight on December 30