Abstract

CHALLENGE
Provide immediate access to cardiology related exams to assess the cardiac health of all rated aviators in the USAF, USAFR and the ANG.

PROPOSAL
Creation of a USAF-wide, comprehensive digital system for the categorization, visualization and interpretation of full diagnostic quality cardiac studies.

SOLUTION
Using secure Cloud technologies provided by ScImage, cardiac exams will be captured at USAF flight clinics worldwide and delivered securely to USAF Consultation Services for evaluation and determination.

RESULTS
- Secure electronic submission reduces physical media delivery costs by over $100,000 annually.
- Automation in study processing reduces manpower requirement by over 60%.
- Offers real-time, expert response to critical cardiac investigations.
- Provides new level of research capability with access to test metadata, including cross-correlation between modalities.
- Expedites aeromedical cardiovascular decisions and results reporting, vastly reducing flight disqualification delays.
- Eliminates regional servers with isolated data and limited access, instead providing a global dataset for research and instant access to relevant prior exams.

Recent estimates indicate a cost of nearly $2.6 million to fully train an air force fighter pilot. That same fighter pilot is strapped into a fighter jet like an F-22, costing upwards of $150 million. With that much on the line, it’s probably a good idea to keep the pilot and other flight personnel in good cardiac health.

Keeping pilots, co-pilots, flight engineers and navigators airborne is in part the responsibility of the USAF School of Aerospace Medicine, Aeromedical Consultation Service (ACS). The ACS interprets and reports on ECGs, cardiac stress, holter, echocardiography, cardiac catheterization, cardiac CT & MRI.

When a rated aviator presents with cardiac related symptoms, or exhibits any cardiac anomalies during a routine physical, surveillance or medical flight screening, test results are directed to the ACS for clinical evaluation.

Using a secure, DIACAP accredited PicomEnterprise PACS from ScImage, Inc., flight clinics worldwide can electronically transfer exams to ACS for rapid assessment. Inbound exams are reconciled with MilPDS and subsequently presented to specialists along with relevant priors for primary reading. It’s all about having access to the right data, quickly.

ACS physicians report their observations electronically, providing quick decision support for the disposition of flight personnel.

In the past, aviators could potentially be disqualified from operational status until their exams were physically delivered to ACS, read and returned to the flight clinic. Now, that valuable aviator can be rapidly evaluated and redeployed to operational status in hours rather than days.

When phase II of the ACS Central Library project is completed, ACS will have the foundation of a complete cardiology recordset, consisting of imaging, reports and discrete test data for all rated aviators; including an ECG library reaching back nearly 60 years. This vast volume of data will provide the USAF with profound research capabilities, all from one database.