Protocol for Maximal Graded Exercise Stress Test Requirements

- If a plain GXT is required and is uninterpretable for any reason, a radionuclide GXT will then be required before further consideration
- GXT requirements:
    - 100% of predicted maximal heart rate unless medically contraindicated or prevented either by symptoms or medications
    - Complete Stage 3 (equivalent to at least 9 minutes)
    - Studies of less than 85% of maximum predicted heart rate and less than 9 minutes of exercise (6 minutes for age 70 or greater) may serve a basis for denial
    - Beta blockers and calcium channel blockers (specifically diltiazem and verapamil), or digitalis preparations should be discontinued for 24-48 hours prior to testing (if not contraindicated and only with the consent of the treating physician) in order to obtain maximum heart rate
        - If the GXT is done on beta blockers, calcium blockers, or digitalis drugs, the applicant must provide explanation from the treating cardiologist as to why the medication(s) cannot be held.
- The worksheet with blood pressure/pulse recordings at various stages, interpretive report, and actual ECG tracings* must be submitted
    - Tracings must include a rhythm strip, a full 12-lead ECG recorded at rest (supine and standing), one or more times during each stage of exercise, at the end of each stage, at peak exercise, and every minute during recovery for at least 5 minutes or until the tracings return to baseline level.*Computer generated, sample-cycle ECG tracings are unacceptable in lieu of the standard tracings. If submitted alone, this may result in deferment until this requirement is met

In patients with bundle branch blocks, LVH, or diffuse ST/T wave changes at rest, it will be necessary to provide a stress echo or nuclear stress test.

Remember, a phone call to either AMCD or RFS may avoid unnecessary deferral.

Reasons for not renewing an AASI:

- The applicant is unable to achieve at least 85% of maximal heart rate on stress testing or less than 9 minutes (6 minutes if age 70 or greater);
- The applicant develops 1 mm or greater ST segment depression at any time during stress testing, unless the applicant has additional medical evidence such as a nuclear imaging study or a stress echocardiogram showing the absence of reversible ischemia or wall motion abnormalities reviewed and reported by a qualified cardiologist;
- The nuclear stress testing shows evidence of reversible ischemia, a stress echocardiogram shows exercised induced wall motion abnormalities, or either study demonstrates a negative change from the prior study of the same type;
- The ejection fraction on a nuclear stress test or stress echocardiogram is 40% or less; or a 10% decrease from a prior study; or
- The applicant reports any other disqualifying medical condition or undergoes therapy not previously reported

Protocol for Graded Exercise Stress Test
Bundle Branch Block Requirements

If the Bundle Branch Block (BBB) has been previously documented and evaluated, no further evaluation is required. A medical certificate should not be issued to any class if the applicant has a new onset of a BBB. A **right** BBB in an otherwise healthy person 30 years of age or younger should not require a CVE. All other individuals who do have a right BBB require a CVE but a radionuclide study should not be required unless the standard exercise stress test cannot be interpreted. A stress echocardiogram may be sufficient in most cases. A **left** BBB in a person of any age should have a CVE and should include a radionuclide perfusion study. **Those individuals who have a negative work-up may be issued the appropriate class of medical certificate. No followup is required.** If any future changes occur, a new current CVE will be required.

If areas of ischemia are noted, a coronary angiogram may be indicated for definitive diagnosis. According to the current literature, approximately 40% of individuals with LBBB will demonstrate a false positive thallium reperfusion defect in the septal area. If significant CAD is diagnosed, refer to Special Issuance guidelines. Some cases may be forwarded to a FAA-selected cardiology consultant specialist for review and recommendation for medical certification.