



**Federal Aviation
Administration**

Guide for Aviation Medical Examiners

Decision Considerations

Disease Protocols - Graded Exercise Stress Test Requirements

An ECG treadmill stress test should achieve 100% of predicted maximal heart rate unless medically contraindicated or prevented either by symptoms or medications. 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 (spec. diltiazem and verapamil), or digitalis preparations should be discontinued for 48 hours prior to testing (if not contraindicated) in order to obtain maximum heart rate and only with consent of the treating physician.

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) and during hyperventilation while 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, it 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 make 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.