

ASISA GUIDELINE ON ELECTROCARDIOGRAMS (“ECG”) TESTING

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1. INTRODUCTION

- 1.1. ECGs form an integral and important part of screening and risk assessment for long-term insurance, especially in clients with significant cardiovascular risk factors.
- 1.2. It is critical that ECGs are performed in accordance with internationally acceptable medical standards. It is also of utmost importance that screening tests done in the population applying for insurance are done in a safe and professional way. ECGs that do not meet such standards are not useful for risk assessment, can lead to over and under treatment of patients and can waste the time of health professionals and other resources, as well as clients.
- 1.3. Unfortunately, the quality of a large percentage of the ECGs received in the insurance industry are not at the acceptable medical standards. For example:
 - 1.3.1. Minimum standards are often not met with regards to the quality and duration of effort.
 - 1.3.2. The recorded tracings are often of poor quality due to interference (like movement interference).
 - 1.3.3. In some cases, not all the tracings required (as part of a routine effort ECG) are provided.
 - 1.3.4. Mostly, very little clinical information is supplied with the ECG tracings regarding symptoms experienced, type of effort, duration of effort etc.
 - 1.3.5. Effort ECGs are sometimes recorded in a setting where potential complications arising during an effort test cannot be dealt with in an efficient and professional way.
- 1.4. The objective of this ASISA Guideline on ECGs is to set out recommended best practices for ASISA members when recording an effort ECG for the insurance industry.
- 1.5. This Guideline is being shared with ASISA members and the public at large for their consideration and voluntary implementation and is non-binding on ASISA members.

2. ECG INFORMATION SHEET

Annexure “A” (ECG Information Sheet) sets out the minimum information recommended to be provided to the health care provider that will oversee and record the resting and effort ECG.

3. ECG QUESTIONNAIRE

Annexure “B” (ECG Questionnaire) sets out the minimum information that should be requested from the health care provider that will oversee and record the ECG.

ANNEXURE “A”**ECG INFORMATION SHEET**

[Company name] hereby requests that you perform a resting and effort ECG for insurance purposes on *[proposed client]*.

To the health care provider that will oversee and record the resting and effort ECG: Please read the very important information below before you start with the ECG recording.

Contraindications for an effort ECG

1. If the applicant objects to an effort ECG.
2. If there is anything in the medical history or examination which indicates that it would be unwise to perform an effort ECG.
3. If the resting ECG shows concerning abnormalities.
4. If the patient is unable to perform the stress test with sufficient intensity to reach the required Target Heart Rate.
5. If the health care provider does not possess the required equipment to perform the test according to the requirements set out below.
6. If the health care provider does not have adequate experience and resuscitation equipment available to handle any emergency that may arise.

Immediately discontinue the effort test if the life insured develops any chest pain, pain in the arm, any undue fatigue or other concerning symptoms.

If any contra-indication for an effort test is noted, please only record a 12-lead resting ECG and state clearly the reasons for not performing the effort ECG.

Technical requirementsPreparation

Please ensure:

- Good electrode contact to produce a technically acceptable and readable ECG tracing.

- That the ECG machine is properly standardized. Include the standardization signal in the tracing.
- That the settings are 25mm/s and 10mm/mV.

Blood pressure recording

Please record and document a BP reading in rest, before commencement with the effort ECG.

Please also record and document further BP readings at maximum heart rate and during the recovery phase.

Resting ECG

Please include:

- Tracings for all 12 the leads, with a minimum of 3 complexes per lead, but preferably 5 or 6 per lead. Please ensure that the tracings are marked appropriately (I, II, III, aVR, aVL, aVF, V1, V2, V3, V4, V5, V6).
- A rhythm strip where possible.

If there is no contraindication (see above), please perform an effort ECG.

Effort ECG

The objective of an effort ECG is to achieve the Target Heart Rate.

The Target Heart Rate needs to be calculated as per the formula below:

$$[220 - (\text{Patient's age in years})] \times 80\%$$

Methods and protocols for the effort ECG

Exercising on a treadmill and cycle ergometer are the methods of choice.

- Treadmill - The Bruce protocol is the most used protocol. If you use another protocol, please specify.
- Cycle ergometer - Suggested protocol: 50Watt for one minute, thereafter, increase by 25 Watt every two minutes.
- Masters Staircase – The applicant must be able to do this vigorously enough to achieve the Target Heart Rate as stipulated above. Please keep in mind that this might

not be a suitable option for the elderly or patients with arthritis or other impairments.

The ECG leads should be kept in place (connected to the client) while the client is exercising. Continuous monitoring during effort is recommended.

Please record and submit the following tracings for the effort ECG:

1. Immediately post effort (at maximum heart rate).
2. 3 minutes post effort.
3. 6 minutes post effort.

Please include all 12 leads in all the post effort tracings

Before submitting the resting and effort ECG

Please:

- Do not cut the ECG tracings.
- Mark the ECG with the patient's name and the date of the recording on the tracings.
- Ask the patient to sign the tracings.

Please note the following:

- A properly completed effort ECG can be beneficial to the patient as it could allow for an optimum underwriting decision.
- An effort ECG which has not been properly completed (especially where the Target Heart Rate was not reached), is of no value.
- *[Company name]* reserves the right to withhold payment if the test does not comply with the criteria and requirements set out above.

ANNEXURE "B"

ECG QUESTIONNAIRE

Please complete the following:

Applicant's full name:

Applicant's ID number:

Applicant's age:

ECG recording date:

Cardiovascular history of applicant:

.....

Current medication used:

.....

Please calculate the Required Target Heart Rate:

$$220 - \boxed{\text{Patient's age in years}} = \boxed{\text{Answer X (80/100)}} = \text{Required Target Heart Rate}$$

If the Required Target Heart Rate as calculated above was not reached and recorded on the ECG, please state the reason (e.g. chest pain or undue fatigue):

.....

BP recordings:

BP at rest:

BP at maximum heart rate:

BP 3 minutes post effort:

BP 6 minutes post effort:

Method and protocol		Stage achieved in protocol	Total exercise time	METS
Treadmill	Bruce protocol			
	Other (specify)			
Cycle ergometer	Suggested protocol			
	Other (specify)			

Alternative methods / protocols	Number of trips	Duration of efforts
Master's staircase		

If an effort ECG was contra-indicated or not done, please give the reasons:

.....

.....

.....

Did the applicant experience any unforeseen symptoms during the effort ECG?
Yes / No.

If yes, please give more information:

.....

.....

.....

Are you the applicant's usual medical attendant? **Yes / No**

I confirm that this ECG was conducted by myself, and that official photographic identification was supplied and inspected.

Signed aton

.....

Signature of health care provider

Health care provider's details:

Full name:

Address:

.....

Qualification:

HPCSA registration number:

Date	Publication/amendment
30 July 2025	First publication of the Guideline

RESPONSIBLE SPA AND COMMITTEES

Responsible Board Committee	Life and Risk Board Committee
Responsible Standing Committee	Medical & Underwriting Standing Committee
Responsible Senior Policy Advisor	ASISA Point Person to the Life and Risk Board Committee