How to Undertake and Interpret an Active Stand Test (AST)

The Active Stand Test (AST) is an accessible, non-invasive tool used to assess heart rate and blood pressure response to standing. It plays a key role in the evaluation of Postural Orthostatic Tachycardia Syndrome (POTS).

Pre-Test Preparation
Ideally, the test should be booked as a long appointment or performed with a practice nurse, as it requires at least 15 to 20 minutes. Perform in the morning when symptoms are often more pronounced. Pause heart rate–controlling medications (e.g. beta blockers) if clinically appropriate. Advise the patient to avoid caffeine, nicotine, and alcohol on the day, fast for at least two hours, and wear loose clothing. Ask them to remove shoes and socks so skin colour can be observed during testing.

Required Equipment
Use a pulse oximeter for continuous heart rate monitoring and an automated BP monitor, with manual backup in case hypotension occurs. An electric height-adjustable bed is optimal for patient safety and testing.

Step-by-Step Testing Protocol

1. Ensure the patient is lying supine for at least 5 minutes

2. Record baseline BP and HR after a 5 minute rest period

3. Instruct the patient to stand in one smooth movement

4. Position the bed behind the patient and ask them to lean their legs against the bed for safety and to minimise movement

5. Instruct the patient to keep their feet still and avoid talking or fidgeting during the test

6. Record BP and heart rate every minute for 10 minutes

7. Ask the patient to report any symptoms they feel e.g. dizziness, light-headedness, visual disturbance, nausea, fatigue, headache

8. Observe the patient for signs such as tremor, sweating, or dependent acrocyanosis (purple, red, or blue discolouration in extremities after standing)

more overleaf →

Diagnostic Criteria Summary Table

Condition	Heart Rate	Blood Pressure	Other Features
Postural Orthostatic Tachycardia Syndrome (POTS)	Sustained rise of ≥30 bpm (≥40 bpm in adolescents) within 10 minutes of standing or absolute HR ≥120 bpm	No sustained drop ≥20 mmHg SBP or ≥10 mmHg DBP within 3 minutes	Chronic, unexplained symptoms of orthostatic intolerance present for ≥3 months
Orthostatic Hypotension (OH)	No HR criteria	Sustained drop of ≥20 mmHg SBP or ≥10 mmHg DBP within 3 min of standing	May cause dizziness, fatigue, or syncope
Vasovagal Syncope (VVS)	May include sudden bradycardia	Sudden drop in SBP and or DBP preceding syncope	Often triggered by stress or prolonged standing
Inappropriate Sinus Tachycardia (IST)	Resting HR (supine): >100 bpm at rest 24-hr Avg HR: >90 bpm on Holter monitor	Normal BP	Persistent tachycardia, not position-related

Interpreting Results

- Use the resting HR as a baseline. If supine HR <60 bpm, calculate the rise from 60 bpm (e.g. baseline HR 55 → standing HR 85 = 25 bpm delta HR)
- Diagnosis requires a sustained HR rise across 2 consecutive readings
- Late-onset or transient hypotension in the presence of tachycardia is consistent with a POTS diagnosis
- Sudden bradycardia with hypotension is consistent with VVS and should prompt cardiology referral if frequent and/or associated with injury
- If resting supine HR is ~100 bpm, consider non-urgent cardiology evaluation for IST
- One negative result does not exclude POTS. If suspicion is high, consider repeat testing, passive tilt, or review home wearable data to support diagnosis

Adjunctive Tools

- Use the Malmo POTS Symptom Score to support clinical decision-making. A score ≥42 strongly suggests POTS

Malmo POTS Score

Safety and Recovery

- Syncope during standing test is less likely in POTS than other orthostatic conditions. However, if syncope occurs, lie the patient flat and elevate legs
- Once stable, offer 500 mL water or oral rehydration solution to support recovery

Stay informed on POTS – scan for education and clinical updates.

Australian POTS Foundation

Newsletter Sign up

Find us on:

potsfoundation.org.au