Clinical Practice Guidelines:
Cardiac/Tachycardia – broad complex

Policy code	CPG_CA_TBC_0416
Date	April, 2016
Purpose	To ensure consistent management of patients with Tachycardia - broad complex.
Scope	Applies to Queensland Ambulance Service (QAS) clinical staff.
Health care setting	Pre-hospital assessment and treatment.
Population	Applies to all ages unless stated otherwise.
Source of funding	Internal – 100%
Author	Clinical Quality & Patient Safety Unit, QAS
Review date	April, 2019
Information security	UNCLASSIFIED – Queensland Government Information Security Classification Framework.
URL	https://ambulance.qld.gov.au/clinical.html

While the QAS has attempted to contact all copyright owners, this has not always been possible. The QAS would welcome notification from any copyright holder who has been omitted or incorrectly acknowledged.

All feedback and suggestions are welcome. Please forward to: Clinical.Guidelines@ambulance.qld.gov.au

Disclaimer

The Digital Clinical Practice Manual is expressly intended for use by QAS paramedics when performing duties and delivering ambulance services for, and on behalf of, the QAS.

The QAS disclaims, to the maximum extent permitted by law, all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages and costs incurred for any reason associated with the use of this manual, including the materials within or referred to throughout this document being in any way inaccurate, out of context, incomplete or unavailable.

Tachycardia – broad complex

Broad complex tachycardia (BCT) is defined as a heart rate > 100 bpm with a QRS complex > 0.12 seconds.[1] The 12-Lead ECG differential diagnosis includes:

- ventricular tachycardia (VT)
- supra ventricular tachycardia (SVT) with aberrant conduction
  - pre-existing BBB
  - intraventricular conduction disturbances
- pre-excitation (e.g. Wolff-Parkinson-White syndrome)

The most important clinical feature when treating patients with BCT is their haemodynamic status. All patients presenting with a BCT associated with haemodynamic instability regardless of cause, require immediate synchronised cardioversion otherwise delay may precipitate severe deterioration and cardiac arrest.

VT is the most common form of BCT, accounting for approximately 80% of cases.

12-Lead ECG changes more likely to be VT include (Wellen's criteria):[2,3]

- AV dissociation
- Left axis deviation (or extreme axis deviation)
- QRS > 0.14 seconds
- Fusion or capture beats present
- Precordial QRS concordance
- RSR pattern in V1, mono or biphasic QRS in V1 or monophasic QS in V6

Age > 35 years and prior history of myocardial disease has a high sensitivity and positive predictive value for VT. The management of patients with BCT should therefore be guided by both history and clinical assessment.

Clinical features

- Palpitations
- Chest pain and/or discomfort (described as burning, pressure or tightness)
- Dyspnoea
- ALOC
- Syncope
- Haemodynamic compromise

Risk Assessment

- Not applicable

Additional information

- All BCTs should be considered as VT until proven otherwise.
- It is possible for a patient with a pacemaker to have a tachycardia that is pacemaker-facilitated.[3]