# Clinical reviews

Our panel of GPs review recent research papers in their specialist areas that may influence the way you practise

**Reviewers**

**Addiction**
**Dr Jez Thompson**
GP Leeds and Clinical Director Lifeline (North) RCGP regional lead substance misuse RCGP/British Liver Trust clinical champion for liver disease

**Cardiovascular disease**
**Dr Peter Savill**
GP Watercress Medical, Medstead
GPwSI Cardiology, Southampton

**Diabetes**
**Dr Matthew Lockyer**
GP with an interest in diabetes, Suffolk

**Dr Peter Savill**
GP Watercress Medical, Medstead
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**Mental health**
**Dr Phillip Bland**
GP with an interest in mental health, Dalton-in-Furness

**Obstetrics and gynaecology**
**Dr Chris Barclay**
GP with an interest in O&G, Suffolk

**Paediatrics**
**Dr Chris Barclay**
GP with an interest in O&G, Suffolk

**Sexual health**
**Dr Richard Ma**
GP with an interest in sexual health and NIHR Research Fellow, Imperial College, London

**Smoking cessation**
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**Urology**
**Dr Jonathan Rees**
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## Cardiovascular disease

# Prolonged PR interval may raise risk of cardiovascular events and death

A meta-analysis of data from observational studies suggests a possible association between prolonged PR interval and increased risk of atrial fibrillation, heart failure and mortality.

The authors searched MEDLINE and EMBASE for studies that evaluated clinical outcomes associated with prolonged and normal PR intervals. Relevant studies were pooled for risk of mortality, cardiovascular mortality, heart failure, coronary heart disease, atrial fibrillation and stroke or transient ischaemic attack (TIA).

Fourteen eligible studies, covering 400,750 participants, undertaken between 1972 and 2011, were included in the analysis. Of these, 11 were prospective and three retrospective cohort studies.

Prolonged PR interval was associated with a significantly increased risk ratio (RR) for:

- Mortality, RR 1.24 (95% CI: 1.02-1.51)
- Heart failure or left ventricular dysfunction, RR 1.39 (95% CI: 1.18-1.65)
- Atrial fibrillation, RR 1.45 (95% CI: 1.23-1.71)

However, there was no increased risk of cardiovascular mortality, coronary heart disease/myocardial infarction or stroke/TIA.

First-degree atrioventricular block (defined as a PR interval > 200 ms) is a relatively common finding and unless associated with evidence of other conducting system disease (such as left anterior hemiblock and right or left bundle branch block) is considered by most clinicians to be a benign phenomenon.

In younger people increased vagal tone is thought to be the most likely reason for first-degree heart block whereas in older people degenerative fibrosis within the conducting system is implicated. However, the authors proposed that the consensus for first-degree heart block having a benign course is based on older and perhaps flawed studies.

The authors concluded that data from the present analysis suggests a possible association between prolonged PR interval and significant increases in atrial fibrillation, heart failure and mortality.

They propose that further prospective studies are needed to confirm this and to consider the potential underlying mechanisms.

Furthermore, if first-degree heart block is found to be a significant risk factor then more work will need to be done to determine the optimal intervention and monitoring strategy for such patients and the differential risk across age groups.

**DR PETER SAVILL**

**Kwok CS, Rashid M, Beynon R et al. Prolonged PR interval, first-degree heart block and adverse cardiovascular outcomes: a systematic review and meta-analysis. *Heart* 2016;102:672-80** »