New risk score spots patients at high risk of serious blood clots

A new risk prediction tool can identify patients at high risk of serious blood clots who might need preventative treatment, according to a study published on [bmj.com](http://www.bmj.com).  
  
The tool, which can be found at [www.qthrombosis.org](http://www.qthrombosis.org), is based on simple variables which the patient is likely to know and could be easily integrated into GP computer systems to risk assess patients prior to hospital admission, long haul flights, or starting medications that carry an increased clotting risk.  
  
The condition, known as venous thromboembolism, is a common potentially lethal disease which can be prevented.

In England alone, it claims more than 25,000 lives each year and, of those who survive, almost a third experience long-term effects.

In 2010, the National Institute for Health and Clinical Excellence (NICE) issued guidance to encourage the identification of high-risk patients and effective use of preventative measures.

Yet there are no validated risk prevention algorithms suitable for use in primary care.  
  
So researchers at The University of Nottingham set out to develop and validate a new clinical risk prediction algorithm (QThrombosis), designed to predict a person’s risk of developing a potentially fatal clot.

Professor Julia Hippisley-Cox and Dr Carol Coupland, of the University’s Division of Primary Care, used the QResearch database for the study ([www.qresearch.org](http://www.qresearch.org)).  
  
Using data from 563 general practices in England and Wales, they studied more than 3.5 million patients aged 25 to 84 years with no previous history of blood clots.

First cases of venous thromboembolism — either deep vein thrombosis or pulmonary embolism — were identified from a patient’s medical records or death certificate, at one year and five years.  
  
The rate of venous thromboembolism was around 15 cases per 10,000 person years of observations.  
  
They show that the risk of venous thromboembolism in both men and women increased with increasing age, body mass index and quantity of cigarettes smoked each day.

Risks were also elevated among those with varicose veins, congestive heart failure, chronic kidney disease, chronic lung disease, inflammatory bowel disease, and any cancer.  
  
Admission to hospital in the last six months also conferred a greater risk, as did taking antipsychotic drugs, oral contraceptives, HRT or tamoxifen.

The authors conclude: “We have developed and validated a new risk prediction model which identifies patients at high risk of venous thromboembolism.

The algorithm is based on simple clinical variables which the patient is likely to know or which are routinely recorded in GP computer systems.  
  
“The algorithm could be integrated into GP computer systems and used to risk assess patients prior to hospital admission or prior to the initiation of medication which might increase risk of venous thromboembolism.”  
  
They add: “Further research is needed to assess how best to use the algorithm and whether, upon implementation, it has any impact on health outcomes.”  
  
The full article is available at <http://www.bmj.com/cgi/doi/10.1136/bmj.d4656>  
  
NB: The University conducts scientific research but does not give clinical advice to individual patients.

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**Notes to editors:** The University of Nottingham, described by The Sunday Times University Guide 2011 as ‘the embodiment of the modern international university’, has award-winning campuses in the United Kingdom, China and Malaysia. It is ranked in the UK's Top 10 and the World's Top 75 universities by the Shanghai Jiao Tong (SJTU) and the QS World University Rankings. It was named ‘Europe’s greenest university’ in the UI GreenMetric World University Ranking, a league table of the world’s most environmentally-friendly higher education institutions, which ranked Nottingham second in the world overall.  
The University is committed to providing a truly international education for its 40,000 students, producing world-leading research and benefiting the communities around its campuses in the UK and Asia.  
  
More than 90 per cent of research at The University of Nottingham is of international quality, according to the most recent Research Assessment Exercise, with almost 60 per cent of all research defined as ‘world-leading’ or ‘internationally excellent’. Research Fortnight analysis of RAE 2008 ranked the University 7th in the UK by research power.  
  
The University’s vision is to be recognised around the world for its signature contributions, especially in global food security, energy & sustainability, and health.  
  
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