



**BRISTOL HEART INSTITUTE**  
University of Bristol  
Bristol Royal Infirmary



## Clinical Trials and Evaluation Unit Newsletter



### “Trust me - I’m a cardiac surgeon”

Professor Gianni Angelini, Director of the Bristol Heart Institute, gave a free public lecture at the Bristol Victoria Rooms entitled “Trust me - I’m a cardiac surgeon”. Professor Angelini said that the talk was “*a celebration of cardiovascular research in Bristol. The research we do has a global impact on today’s society and we hope to increase the public understanding and appreciation of the importance of such work. Only through continued research will we understand more about this debilitating disease.*” . The lecture covered the latest research in gene technology, innovative cardiac surgery and the impact of exercise and diet on cardiovascular health. It also emphasised the scale of expertise in the Bristol Heart Institute and its advancement into an

internationally recognised centre of excellence.

More public lectures are planned in the future. Details of all public lectures hosted by the University of Bristol can be found at <http://www.bristol.ac.uk/events> or by phoning the Centre for Public Engagement (0117 928 7172).

### Investigating criteria for blood transfusions

Undergoing cardiac surgery inevitably leads to blood loss, which may result in the patient needing a blood transfusion. In addition to the obvious risks of blood transfusion, such as transmission of blood-borne diseases, there is an increased risk of other harms, such as wound infections. The decision to transfuse involves weighing up the risks and benefits, and in many cases the blood transfusion is lifesaving.

We have used our surgical database, including information provided by those taking part in our long term monitoring programme, to try to quantify the risks associated with blood transfusion. This will help make decisions about who should be given blood. One aspect is how low blood haemoglobin levels should go, that is how anaemic a patient can become, before blood should be transfused.

We have recently recruited 320 patients onto the TITRE trial which is studying the effects of a lower haemoglobin transfusion threshold (i.e. letting patients become slightly more anaemic before giving them a transfusion). This is a pilot study to look at feasibility, and a large multicentre study is planned. This will examine if it is safe to allow lower haemoglobin levels in cardiac surgery patients and whether potential side effects of transfusion are reduced if more stringent transfusion criteria are used.

### Long term monitoring of all cardiac surgery patients

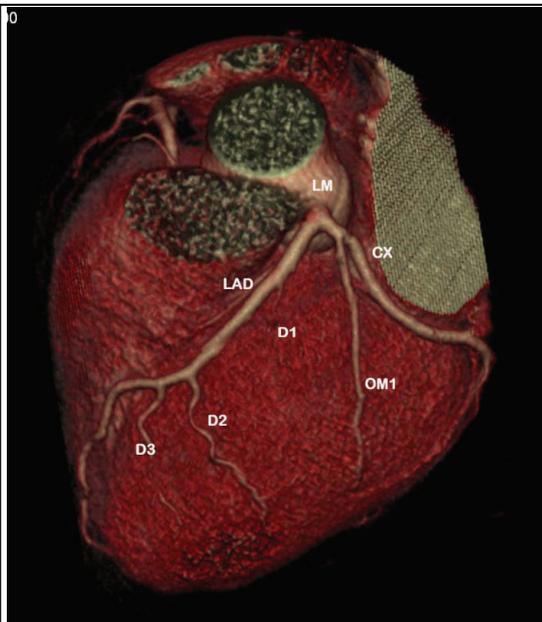
Over 5600 patients continue to complete our annual questionnaires which we send out to all patients who have undergone coronary artery bypass grafting. Information about the health of patients years after surgery supplements data collected whilst patients are still in hospital. This has been used for many studies including the work with transfusion described to the left.

## A new way to access the heart for bypass surgery

Building on the experience of Professor Angelini and his colleagues at the BRI in performing 'off-pump' surgery (see item on BHACAS below), we have started a clinical trial comparing ways to access the heart during off-pump surgery. The new method is called a thoracotomy, and involves accessing the heart through the ribs rather than through the sternum as in the standard method (called a sternotomy). Other surgeons who have used this new technique have reported that patients undergoing thoracotomy require less time on the ventilator after their operation and are fit to go home sooner than patients who receive a sternotomy. However, this is the first time the 2 techniques have been directly compared. We plan to recruit 180 patients to this study within the next 2 years to compare the techniques.



## BHACAS (Beating Heart Against Cardioplegic Arrest Studies)



Above is a picture of a heart produced by CT imaging. This is a non-invasive technique which is not routinely available to study coronary arteries at the moment, but it provides a very valuable tool for research where subjecting a patient to a more invasive angiogram would not be acceptable.

The BHACAS studies were carried out between 1997 and 1999 when 401 patients were randomised to receive coronary artery bypass surgery either with the heart lung machine (on-pump) or without the heart-lung machine with the heart still beating (off-pump). Over the last 2 years, these patients were invited to attend the BRI for a non-invasive CT scan which took pictures of their grafts. They were also asked to fill in questionnaires about any symptoms they may experience and the impact these have on their quality of life. 299 patients returned the completed questionnaires and 199 attended for the CT scan. The average time since the operations was just over 6 years, and the results showed that there was no difference in the quality of the grafts performed by either technique. There was also no difference in the symptoms reported by patients. Evidence has already been published showing that performing bypass operations off-pump, where possible, has advantages in the short-term. But as performing surgery on the beating heart is technically more challenging, it has been important to show that in the long-term the quality of grafts are not inferior to those produced during on-pump surgery.

## Cardiac support groups

If you are interested in joining a cardiac support group in your area, the British Heart Foundation has about 300 affiliated groups in England and Wales. Activities vary from group to group, but may include a listening service, exercise classes or invited speakers on a wide range of topics. For more information about groups in your area, please contact the BHF Cardiac Care Administrator on 0207 487 7110 or if you have access to the internet you can use their Website: [www.bhf.org.uk](http://www.bhf.org.uk)



### We gratefully acknowledge the support of:

- The British Heart Foundation
- The Garfield Weston Trust

### Clinical Trials and Evaluation Unit:

0117 928 3398 or 2507 Bristol Heart Institute,  
Freeport SWB2225, Bristol BS2 8ZZ.