"With just six days per year of planned treatment, I have had no sickle cell crises since starting regular exchange. I used to miss at least ten days a month of school. I have now hiked in Africa in World Challenge, have a completely changed, near-normal life and can have high aspirations because I am confident I will be well."

Sam Ovuorie receiving automated red cell exchange treatment at NHS Blood and Transplant's Therapeutic Apheresis Unit in Oxford

Blood donation teams are particularly eager to recruit young donors and those of black, Asian and minority ethnic backgrounds (photo courtesy of NHS Blood and Transplant).

SICKLE CELL ANAEMIA

HAEMATOLOGY

Sam's story

Sam Ovuorie suffers from sickle cell disease and was referred for automated red cell exchange (RCE) treatment at NHS Blood and Transplant's (NHSBT) Therapeutic Apheresis Unit in Oxford when he was just 13 years old. At this point he was suffering with excruciating pain in his joints, walking with crutches and was frequently in and out of hospital due to the effects of sickle cell crisis. Sam was unable to lead a normal life and was struggling to attend school.

Now Sam regularly attends the Therapeutic Unit in Oxford for RCE treatment. This procedure, which takes approximately two hours, removes Sam's abnormal cells and replaces them with donated red blood cells. Sam had orthopaedic surgery to his left hip in December 2011 in Oxford. The RCE contributed to the significant recovery and repair of his hip.

Sam is now 20 years old and studying economics at university.

Treating sickle cell anaemia

Sickle cell anaemia is an inherited condition most common in people with an African background. The normal haemoglobin in the red blood cells is replaced with an abnormal form, which causes the red blood cells to take on a sickle shape. It is diagnosed in the haematology laboratory by looking at the red cells down a microscope and testing for the abnormal 'sickle' haemoglobin.

Therapeutic apheresis treatment uses a cell separator machine to add or remove constituents of the blood, such as red cells, white cells or plasma. A procedure tailored to the patient's needs can treat many other diseases such as cancer and nerve conditions. A recent NICE appraisal demonstrated the marked economic benefit of automated red cell exchange for sickle cell anaemia.

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