



## Blood stem cells make a better cure for leukaemia

CHILDREN with leukaemia are more likely to survive if their chemotherapy is topped up with an injection of blood stem cells.

Paediatricians at the University of Milano-Bicocca, Italy, identified 357 children and teenagers with acute lymphoblastic leukaemia, a cancer in which too many white blood cells form and tumours develop in the chest.

Matching donors were found for 77 of the children, and aggressive chemotherapy was used to kill off all these children's white blood cells, including the

cancer cells. The children were then injected with blood stem cells from donors' bone marrow.

The other children were treated with normal, lower doses of chemotherapy, forcing the disease into remission (*The Lancet*, DOI: 10.1016/S0140-6736(05)66998-X).

Five years on, 50 per cent of the normal-chemotherapy group and 56 per cent of the blood stem cell group were still alive. But while survivors in the chemotherapy group continued to relapse in the five years following treatment, there were no further relapses in

the stem cell transplant group after two years, leading to an overall 16 per cent difference in disease-free survival. Knocking out the immune system and starting again with transplanted cells may mean remaining cancer cells are mopped up in an immunological reaction, says Ken Campbell of the Leukaemia Research Fund in London.

But the stem cell technique is risky: high doses of chemotherapy are extremely unpleasant and disabling the body's immune system can be lethal.