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Joseph E. Murray (born 1 April 1919), American surgeon, performed the first successful human kidney transplant from an adult to his identical twin. Murray won the Nobel Prize in Physiology or Medicine in 1990 for work on organ and cell transplantation.

Dr. Joseph E. Murray grew up in Milford, MA, and was a star athlete at the Milford High School. Murray excelled in football, ice hockey, baseball. Murray later attended Harvard Medical School and after graduating from medical school, Murray joined the US Army where he studied surgery at Valley Forge General Hospital in Pennsylvania.

In December 1954, Dr. Murray performed the world’s first successful kidney transplant between the identical Herrick twins at the Peter Bent Brigham Hospital. In 1959, he performed the world’s first successful allograft and in 1962, the world’s first cadaveric renal transplant. Throughout the following years Dr. Murray became an international leader in the study of transplantation biology, the use of immunosuppressive agents, and studies on the mechanisms of rejection. In the 1960s, the discovery of anti-rejection drugs such as azathioprine allowed Murray to carry out transplants from unrelated donors.

Dr Joseph E. Murray served as chief plastic surgeon at Children’s Hospital Boston from 1972-1985 and retired as Professor of Surgery Emeritus in 1986 from Harvard Medical School.

Transplant procedure: The transplant surgery lasts about three hours. The donor kidney will be placed in the lower abdomen (often in iliac fossa) and its blood vessels connected to arteries and veins in the recipient's body. When this is complete, blood will be allowed to flow through the kidney again, so the ischemia time is minimized. In most cases, the kidney will soon start producing urine. The final step is connecting the ureter from the donor kidney to the bladder. Depending on its quality, the new kidney usually begins functioning immediately. Living donor kidneys normally require 3-5 days to reach normal functioning levels, while cadaveric donations stretch that interval to 7-15 days. Hospital stay is typically for four to seven days.