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First Human Heart Transplantation -

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Lead: Building on two centuries of research and experimentation, South African Dr. Christaan Barnard performed the first heart transplant.

Intro: *A Moment in Time* with Dan Roberts.

Content: Though he was the first surgeon to successfully transplant a human heart, Dr. Barnard was using a technique developed by an American team at Stanford University Medical Center, led by surgeon Norman Shumway, who was considered by

many to be the father of heart transplantation. In 1958 Shumway had transplanted the first heart in a dog. He and his associates had spent most of the early 1960s developing heart-lung machines and progressively removing the obstacles to organ transplantation. By the middle of the decade only the issue of immunosuppression seemed to be blocking the way. The body of the patient had a natural tendency to reject donor tissue as an alien to be destroyed.

Barnard used Shumway's techniques to perform the first heart transplant, but his patient, Lewis Washkansky, died in 18 days. In order to prevent tissue rejection he had been

given powerful immunosuppressive drugs. This left Washkansky almost defenseless to invasive infection. He contracted double pneumonia and could not be saved. Nevertheless, surgeons moved quickly to emulate Dr. Barnard, but soon discovered that they too were losing patients to infection complicated by the anti-rejection drugs. Not until the mid-1970s discovery of the immunosuppressive effectiveness of cyclosporine derived from soil fungus did heart-transplantation to give patients decades-long life expectancy. Today some 1500 annual heart transplants are successfully performed world-wide.

At the University of Richmond's School of Professional and Continuing Studies, I'm Dan Roberts.

Resources

Cheng, Allen, "Heart Transplantation," *Journal of Thoracic Disease*, 6 (8, August, 1, 2014): 1105-1109.

Stuart, Frank P, Michael M. Abecassis, Dixon B. Kaufman. *Organ Transplantation*. Austin, TX: Landes Bioscience, 2000.

<http://hearttransplant.com/history.html>.

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