



Contact: Will Sansom, UT Health Science Center, (210) 567.2570 – Cell: (210) 275-2160  
Carolyn Cox, CHRISTUS Santa Rosa Health Care, (210) 704-2902 – Cell: (210) 857-6332

## **Titanium Rib Project chronology**

**1987** – Dr. Melvin Smith consults with Dr. Robert Campbell about newborn Christopher Cardenas, who was born without a chest wall; the doctors create an artificial chest wall of orthopedic fracture pins for Christopher during surgery at CHRISTUS Santa Rosa Children's Hospital.

**1989** – The titanium rib is invented by Dr. Campbell. In the first operation of its kind, Drs. Campbell and Smith replace Christopher Cardenas' prosthesis with the titanium rib at Santa Rosa Children's.

**1990** – Referrals of children with rare spine and rib cage disease are made to the Titanium Rib Project at CHRISTUS Santa Rosa Children's Hospital from all over the world.

**1993** – Drs. Campbell and Smith name the disease "thoracic insufficiency syndrome" to describe the damaging effect of several conditions that seriously constrict the lungs of children.

**1996** – Synthes Spine Co. of Pennsylvania assumes manufacture of the titanium rib. The device is named the Vertical Expandable Titanium Rib Prosthesis (VEPTR).

**1998** – In a multicenter clinical trial, titanium ribs are implanted for the first time at other medical centers, including Boston Children's Hospital and Children's Hospital of Pittsburgh.

**1999** – By the 10<sup>th</sup> anniversary of the titanium rib project, 45 children have received the lifesaving implant.

**2000** – The 100th titanium rib is implanted.

**2003** – Titanium rib surgery is demonstrated to international surgeons at the children's hospital at Basel, Switzerland. This is the first titanium rib implant in Europe.

**2004** – The titanium rib is approved by the U.S. Food and Drug Administration.