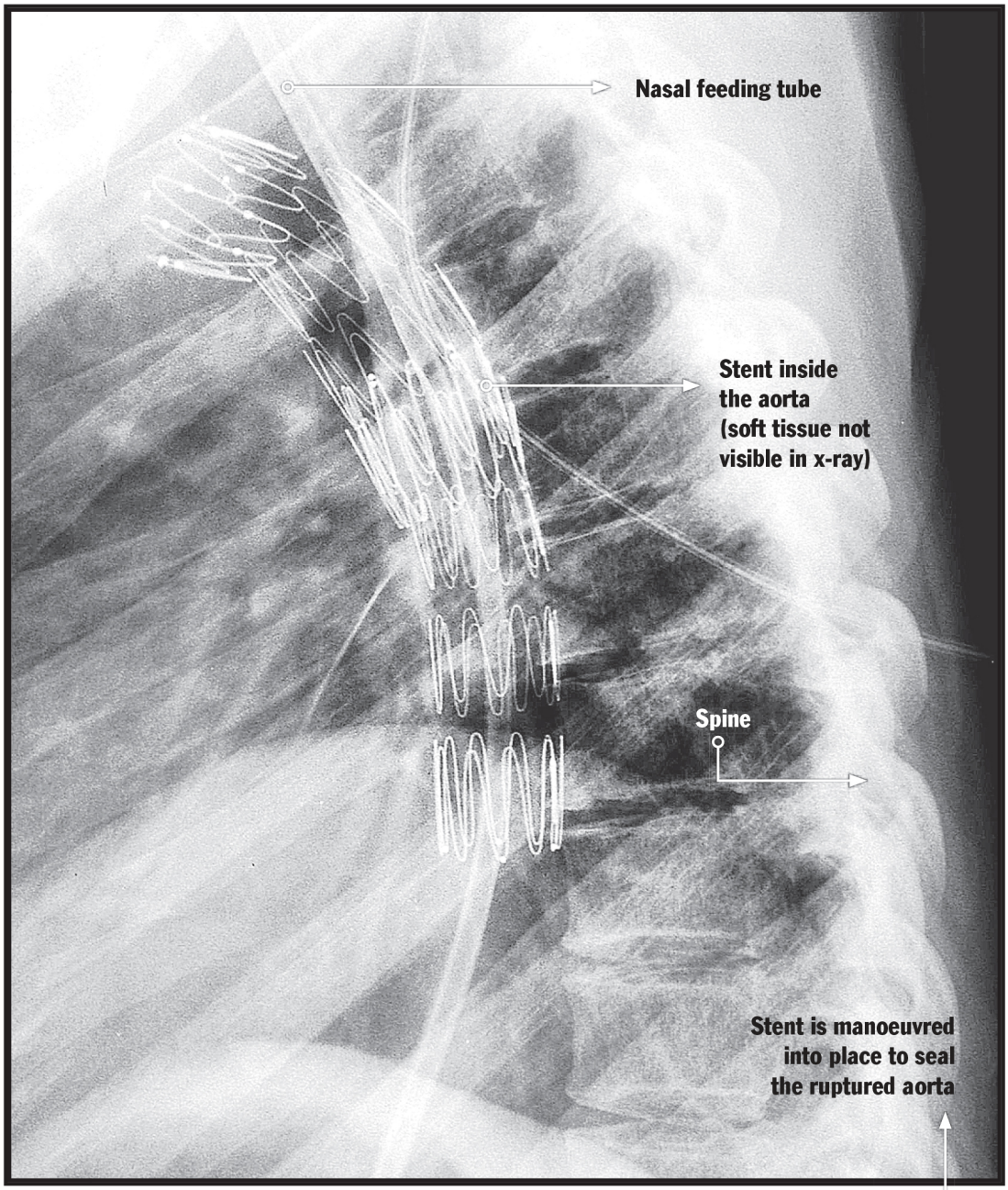


HOW IT WORKS

THE force of the impact jarred Renae's heart so hard it ruptured her aorta, the main blood vessel taking oxygen-rich blood from her heart to the rest of the body.

Standard repair surgery would cut out the torn part and rejoin the aorta with a graft, but this could have left her paralysed by cutting the blood supply to her spine.

Instead, surgeons decided to use a technique not tried before under these circumstances in SA, using a stent to close the tear from inside the aorta.

Stents normally are about 2cm long.

In Renae's case, the rupture was so bad and the aorta so big, they had to design and build a special stent, about 10cm long and about 2.5cm in diameter.

In a delicate procedure of about six hours, vascular surgeon Dr Brendan Stanley used a catheter (a thin, flexible tube) skinnier than a pencil to push the titanium stent into place.

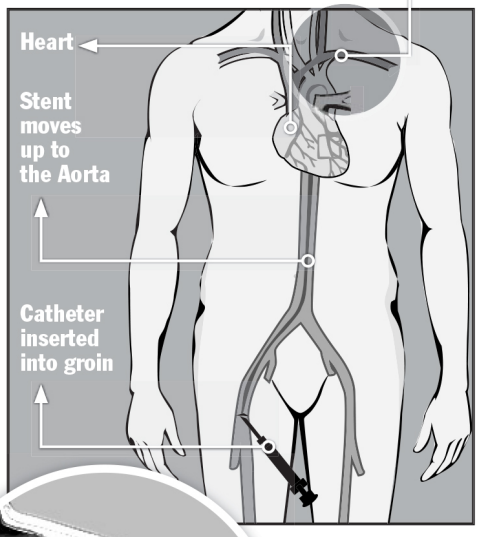
This involved pushing the catheter up Renae's femoral artery from her groin, guiding it through a highway of blood vessels using images on a TV screen as a guide, and manoeuvring it into place.

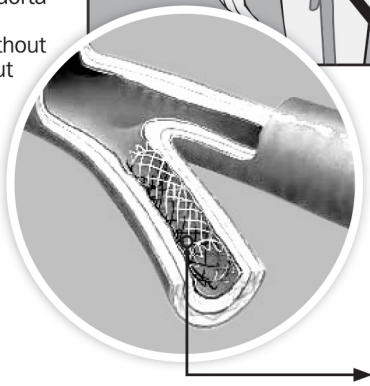
A removable balloon then expanded the concertina-like stent, forming a tube inside the aorta which sealed the tear.

The rupture was so long the stent also blocked the main artery from the aorta to Renae's left arm.

This has left her without a pulse in the arm, but blood-flow from her neck should keep the arm alive with proper care.

Dr Stanley now also will use the technique at the Royal Adelaide Hospital, ensuring trauma cases from across the state have access to it.





WHAT IS A STENT?

It is a tiny, expandable wire mesh coil placed inside a blood vessel, then expanded to cover a rupture or open a blockage.