

Doctor looks to China for spinal injury 'cure'

March 7 2012, by Stephen Coates

One of the world's leading researchers into spinal cord injuries says China could hold the key to a cure that he has been searching for since he met late actor Christopher Reeve in the 1990s.

US-based Doctor Wise Young first used the word "cure" in relation to his work after a conversation with Reeve, the "Superman" hero who became quadriplegic in an equestrian accident in 1995.

Reeve contacted him looking for help and the two became [close friends](#). The actor died of [heart failure](#) in 2004 at the age of 52, having devoted his life to raising awareness about spinal cord injuries and [stem-cell research](#).

But it was a star of a different sort, Chinese gymnast Sang Lan, who set Young on the path he believes has brought a cure closer than ever, thanks to ground-breaking clinical trials of [stem-cell therapy](#) he is conducting in China.

"Everybody assumed that I'm doing this in China because I wanted to escape George W. Bush, but that's not the case at all," Young told AFP in an interview, recalling the former US president's 2001 decision to effectively stop Federal funding of [embryonic stem cell research](#).

"I started the [clinical trials](#) in 2005 here in Hong Kong ... mainly because of a promise that I made to a [young woman](#). Her name is Sang Lan."

Sang crushed her [spine](#) during a routine warm-up exercise at the

Goodwill Games in New York in 1998. She met Young as she underwent treatment and rehabilitation in the United States over the next 12 months.

"Her parents came to me and asked whether or not there would ever be a cure for her, and I said we're working very hard on it," recalled Young, who was by then one of the leading US experts on spinal cord injuries.

"When she went back to China after doing her rehabilitation in New York she cried and asked how would therapies go from the United States to China.

"In those days China was still relatively poor and backward so she didn't think that any therapy would be coming from China. So I started in 1999 to talk to all the spinal cord doctors in China."

He said the result was China Spinal Cord Injury Net, the world's largest clinical trial network for spinal cord therapies. Established in Hong Kong in 2005, it is about to expand into Europe, India and the United States.

"We're testing umbilical cord blood-cell transplants into the spinal cord combined with lithium treatments," said Young, professor in neuroscience at Rutgers University, New Jersey.

At about 20 centres in China, Hong Kong and Taiwan, stem cells are injected into patients' damaged spines to help regenerate nerves, while lithium is used to promote the growth of the nerve fibres.

Each component of the combination therapy needs to be tested separately before they are brought together in the third and final phase, due to take place in the coming years if all goes well.

The results so far have been promising, although it's "still too early" to

draw conclusions about recovery of movement, Young said.

"What we can comfortably say right now is that the procedure seems to be quite safe. Nobody has lost any function," he added.

"We don't expect people to be jumping out of bed and running marathons after this. Regeneration is a slow process."

The trials also involve intensive walking exercises for some of the severely injured participants at the Army General Hospital in Kunming, southwestern China.

In two sessions of three hours each, six days a week, the patients "sculpt" their nerve fibres into shape, Young said. He likened it to running a marathon every day. By comparison, Reeve did about two hours of exercise daily.

"The families are there cheering them on. There's a mass effect," said Young in his tiny office in central Hong Kong, where he was born into a business family in 1950.

"They are joshing with each other, saying 'I'm going to beat you today'. There's that kind of atmosphere that allows you to do it six hours a day, and once it becomes a routine you keep going."

One of the tragic and little-known side effects of the country's booming economy is the rise in car accidents and construction site accidents, leading to soaring numbers of spinal injuries.

China's rate of chronic [spinal cord injuries](#) has increased more than 10-fold since 1995, and another 80,000 people are added to the list every year, according to Young.

Growing demand for therapies has led some unscrupulous Chinese researchers to offer stem-cell treatments at high prices, without any clinical proof that their methods are effective.

But Young said such problems existed everywhere. For him, the real story about China is how it has gone from the backwater of Sang Lan's day to a country at the cutting edge of spinal cord research.

Chinese government spending on biomedical research is at least on a par with the United States, and the legal framework governing its clinical standards is second to none, the doctor said.

"It's turned 180 degrees from the time Sang Lan was asking how will therapies get to China. Now Americans want to go to China," Young said.

"This is not what I would have said to Sang Lan back in 1998, but it is possible that the cure for [spinal cord](#) injury will actually come from [China](#)."

Young does not use the word "cure" lightly.

"Before I met (Reeve) I was very reluctant to use the word cure... It's very scary to use because when you use the word cure you're committing yourself to a goal that most scientists feel uncomfortable with," he said.

"We're not going to be able to make the body exactly the same as it was before the injury.

"What we should do is get (patients) to a point where you can't tell that they have been injured, and I think that is an achievable goal."

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