



## **Under the Microscope**

### **With Clinical Professor René Zellweger**

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Patients with spinal or brain injury could hold the key to faster bone healing.

RPH's Clinical Professor René Zellweger and his Orthopaedic and Trauma surgery team have received a 2008 Medical Research Foundation grant to find out how some brain or spinal cord injured patients have faster bone healing.

“Over the years we have seen that 10-30 per cent of spinal cord or brain injured patients shown enhanced callus formation around fractures and faster bone healing,” Prof Zellweger said.

The grant allows the team to have access to state of the art equipment, clinicians and scientists in order for the study to continue.

“What we are trying to find out is what causes the bone to heal faster in these brain or spinal cord injured patients than in a person who just has a fracture and no other injuries.”

“We have identified about 50 proteins in the serum and cerebrospinal fluid of brain and spinal cord injured patients that are up-or-down regulated.”

Besides clinical follow-ups the study involves collecting serum and cerebrospinal fluids from severely brain and spinal cord injured patients and testing the effects on osteoprogenitor (bone building) cells in the lab.

These results are compared with those of patients who have similar fractures but no brain or spinal cord injuries.

“We have noticed that the bone building cells become stimulated when we incubate them with the serum and cerebrospinal fluid of spinal and brain injured patients.

“This is the first time our studies have linked clinic and laboratory testing in this area.”

“To identify proteins which influence and accelerate bone healing would be a breakthrough.

“We are now living longer and fractures are also common in an ageing population – if we could find out how to stimulate and accelerate bone healing it would make a huge difference for all of us.”