**Transcript**

***Dr Adam Hart – Curing the incurable – stem cell research***

Well, in my laboratory we work on stem cells and our hypothesis is that stem cells could be used to cure some very important, currently incurable diseases. And this includes things like diabetes, spinal nerve damage and degenerative disease. Also things like kidney disease and other traumatic injuries that can cause permanent damage and that we can’t currently treat. I’m looking into the basic molecular regulation of stem cells. So, my hypothesis is that whatever I discover in basic biology of stem cells may eventually one day be translated into clinical applications.

One of the key outcomes that we hope to achieve in our research is to master the control of differentiation of stem cells in the laboratory into a defined population of functional cells that can then be applied in a therapeutic way. So, at the moment, the most common outcome from transplanting a stem cell into a human is a teratoma which is a kind of cancer. So, this is a major obstacle in delivering stem cell therapies and our research is largely oriented towards avoiding that and delivering some really useful therapies.

The impact that we hope in the long run is a major improvement in the treatment of these currently incurable diseases. Also with the ageing population the incidence of things like cancer and degenerative disease are on the rise and this new type of medicine will be very important in improving the health and prevention recovery from disease in the future.