

prone to infection; such as URI, because of the low levels of immunoglobulin A produced in the body.

The hypothesis that I'm putting forward for this protocol, would be that the higher the intensity of exercise of an elite athlete, the fewer immunoglobulins are produced in their body.

### ***Design and Methodology***

#### *Subjects*

The design of this experiment would be a controlled experimental study, in which the participants would be given a set intensity of exercise that they have to undergo. The subjects are 14 male students, aging from 19- 29, from the Cardiff Metropolitan School of Sport. In order to be accepted into the study, the students would normally exercise 2 times a week, by the least. The subjects should be healthy and not take drugs like immunosuppressant, phenytoin. This could affect the production of IgA in them. They are also asked to avoid drinking alcohol 12 hours before the start of the study and not to eat food some 2 hours before the experiment.

The duration of this study will be for 1 week and will take place over a spacious 3 days. This is so that once they come in and exercise they have time for their immunoglobulin A levels to come back to normal and doing all three intensities in the same day will be very tiring and may cause discomfort for the subjects. In the consent form (see appendices) they are asked not to exercise 24 hours before the first day of the study so that when they take part in the study their immunoglobulin levels are not affected.

#### *Method*

These 14 subjects will be going through 3 separate intensity of exercise; maximum exercise intensity, medium and low exercise intensity. As the study will be taking place over a period of a week, there is a space of 48 hours between each experiment. This is so that their IgA levels are restored back to normal. The subjects will also be given 250ml of water to drink after the exercises so that they are not dehydrated.

Experiment 1: The subject starts of walking on the treadmill and gradually increases speed by 1mph every 5 minutes, till they reach 9mph. The duration of this task is for 60 minutes and if by any chance the subject is too exhausted or tired to continue, they can slow down the speed of the treadmill or stop the task. They will be encouraged to continue and complete the time given; however, it's their choice that will be taken into consideration. If nearer the end of the 60 minutes the subject does not make it known to us that they want to stop, the speed of the treadmill would be gradually decreased so that they can come to a jog before they stop completely.