BSc in Reproductive & Developmental Sciences &

BSc in Surgery and Anaesthesia Project Outline 2011-2012

**Project Title: The Influence of Cognitive Enhancement on Cognition and the Performance of Advanced Laparoscopic Skills**

**Academic Supervisor: Mr Colin Sugden, NIHR Academic Clinical Lecturer**

**Division: Surgery & Cancer**

**Section: Surgery**

**Co-supervisor:**

**Who will be responsible for day-to-day supervision? Ian Flindall, Clinical Research Fellow**

**Contact Details of Person whom Medical Student should contact for further details:**

**Name: Colin Sugden Email: c.sugden@imperial.ac.uk Tel: 07590529497**

**Group’s Research Interest: Cognitive Enhancement, Fatigue, Simulation**

(Double click the appropriate check box to indicate your choices below)

**Is this a clinical [ ]  or laboratory [x]  project?**

**Suitable project for: Reproductive and Development**  **Sciences** Yes **[ ]** No **[ ]**

**Surgery and Anaesthesia** Yes **[x]** No **[ ]**

**Synopsis of project (background/research question/methods to be used/relevant key references):**

The cognitive enhancer, Modafinil, has been used by academic and military groups to sustain and improve performance. Previous work carried out by our group based in the Academic Surgical Unit at St Mary’s Hospital has shown that modafinil can improve the cognitive performance of sleep deprived doctors, enhance visual perception in healthy medical students & improve polyp detection at colonoscopy.

This BSc project aims to determine the extent to which modafinil may enhance the performance of complex cognitive tasks and laparoscopic skills such as laparoscopic suturing. This study will be a randomised controlled trial & will recruit approximately 20 medical students / junior doctors. The student will be expected to run the study and liaise closely with the day to day supervisor throughout the course of their BSc. They will be well supported in all aspects of the project from study design, recruitment & data collection to the analysis of data and final write up of the project.



Previous students involved with this group have produced projects of a very high standard, published high impact papers and won international prizes for their work.

This study will allow the student to become familiar with a small double blind randomised placebo controlled trial. They will be expected to become familiar a laparoscopic simulator, with the ethics surrounding the potential uses of Modafinil and be able to follow protocols whilst accurately recording the information obtained. The day to day supervisor is based at St Mary’s & will help with the running of the study & data collection. The academic supervisor will meet with the student on a regular basis & will arrange sessions to teach basic data analysis techniques using STATA, academic writing & presentation skills. Previous students have become proficient in these skills.

General papers of interest:

Sahakian, B. & Morein-Zamir, S., 2007. Professor's Little Helper. *Nature*, 450(20-27 December), pp.1157–1159.

Sugden, C., Aggarwal, R., Housden, C., Sahakian, B. J., & Darzi, A (2010). Pharmacological enhancement of performance in doctors BMJ (Clinical research ed), BMJ (Clinical research ed), 340, c2542.

Sugden, C. et al., 2011. Effect of Pharmacological Enhancement on the Cognitive and Clinical Psychomotor Performance of Sleep-Deprived Doctors: A Randomized Controlled Trial. *Annals of surgery*.

Williams, S.J. et al., 2008. Waking up to sleepiness: Modafinil, the media and the pharmaceuticalisation of everyday/night life. *Sociology of health & illness*, 30(6), pp.839–855.

Will the research involve work done under the Animals (Scientific Procedures) 1986 Act? Yes **[ ]** No **[x]**

**If YES*,***

Will the student be required to undergo Home Office training? Yes **[ ]** No **[ ]**

Are the appropriate project and personal licences in place? Yes **[ ]** No **[ ]**

**Project licence**:

Licensee

Date of issue

Number

**Personal licence**:

Licensee

Number

**Will the research involve the use of genetically modified tissue?** Yes **[ ]** No **[x]**

**If YES**

Has the work been approved by the relevant GM Committee Yes **[ ]** No **[ ]**

Date approval was granted

Reference Number

**Will the project involve work on human subjects, human tissue or access to confidential patient information?** Yes **[x]** No **[ ]**

## If YES

## has ethical approval been obtained Yes [ ]  No [x]

## Date approval was granted

## IC REC or IRAS REC number

**Note: Approval for any of the above MUST be in place before the student begins the project.**

**A risk assessment form will be required.**

**Project Payment**: I have an F account Yes **[ ]** No **[x]**

## If you have an F account please give full account code: